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MELANCHOLIA,

THE PSYCHICAL EXPRESSION OF ORGANIC FEAR.[1]

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In the very nature of things there can be no disease of the mind, and sooner or later so-called mental diseases must be recognized as simply *states of mind* which exist by reason of disease processes in some one or more of the organs of the body. There may be a derangement of the mental faculties; there may be important and radical changes in mental operations; the mind may run riot in delirium, or weave itself into the fantastical and grotesque forms of delusional insanity, or vanish completely beneath the somber shadows of dementia, but it cannot become diseased, because in its very nature there is nothing upon which disease can fasten.

Can pathological states be assigned to ideas? Is abstract thought subject to infection or degeneration? Reason may "totter upon her throne" but does she ever "languish upon a bed of sickness?" Then how can there be a disease of the understanding, or a disease of judgment, or a disease of any other mental faculty?

From one point of view it is not a matter of surprise that many are misled and adopt ideas regarding the relation of the mind to insanity entirely at variance with the facts of science. When the leading alienists of the country cry aloud, as with one voice, that all forms of insanity are due to abnormal bodily conditions, either located in the brain or elsewhere, while, at the same time, reports are published of various forms of insanity caused by disappoint-

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ment, or grief, or some other psychical state, is it to be wondered at that the vast army of "lesser lights" become bewildered and revert to the original idea of a mind existing in the body, but apart from it, and subject to its own peculiar diseases? Alienists must take one ground or the other in this matter if they wish to escape the charge of inconsistency. How many superintendents and assistant physicians in hospitals for insane report the condition of a patient as follows: "He is becoming more and more impaired mentally but remains in good bodily health." How can such a statement be made to conform with present theories? If all insanity is due to disease of the body, or, as the more radical believe, is due to disease of the brain, how can a patient, who is becoming more impaired mentally, be in good bodily health? How would it sound to say, of a man afflicted with stomach trouble, that the "indigestion" is increasing but he is in good bodily health? If the function of any organ is impaired how can a man be in good bodily health? The mind is either a function of the brain or it exists independently of the body. If it is only a function it cannot be diseased in itself, either because of infection, or by contagion from its own psychical states. If it exists as a thing in itself, then are we indeed in the dark and far from the truth. This much we know, it cannot be a thing in itself and also a function of the brain. These theories are antagonistic, and the man who believes the one and advocates the other is inconsistent, to say the least.

Disease is defined as, "A condition of the body marked by inharmonious action of one or more of the various organs, owing to abnormal condition or structural change." If this definition is correct, and I believe it is sufficiently so for all practical purposes, there can surely be no disease of the mind because the mind is not an organ of the body, nor is it subject to structural change. It is the functional product of an organ itself, and there can no more be a disease of the mind than there can be a disease of the bile or a disease of the urine.

Mental states or conditions, when abnormal, are only symptoms, and attest to the presence of bodily, not mental disease. Whatever the form these abnormal mental states may assume they point unerringly to the nature of the bodily disease or disorder from which they spring. All abnormal mental states are due either to intellectual derangement, or emotional derangement, or

to a combination of these two. Idiocy, imbecility, and dementia are the product of intellectual involvement. Idiocy and imbecility indicate in varying degrees the absence of intellect through non-development of the brain; dementia points to a day that is done and marks the gradual sinking of the intellectual sun. On the other hand, delusional insanity has its origin in the emotions, and derives its form and structure from the character of the emotion which gives it birth; while in imbecility with delusions, or dementia with delusions, we have the involvement of both the intellect and the emotions; the emotional involvement, however, being characterized by its evanescence, appearing and disappearing with the appearance and disappearance of the emotional state which produces it; while the intellectual conditions in imbecility and dementia, being due to organic brain alterations, persist steadily to the end.

I have said that all abnormal mental states are due to intellectual changes, or to emotional changes, or to a combination of these two; that abnormal intellectual conditions are known as idiocy, imbecility, and dementia, and that abnormal emotional conditions are known as the various forms of delusional insanity. If this be true it may be well to turn our attention for a moment to the consideration of these intellectual and emotional states which determine the form of insanity present, but more especially to those emotions which give form and structure to delusional insanity and without which no delusive idea can originate.

The field of discussion opened up by a subject of this nature is practically unlimited in extent, and I can do no more in this paper than lightly touch upon the following propositions, namely:

1. *That there are organic as well as ethical emotions.*
2. *That the relation of the body to the mind is that of master to servant.*
3. *That the influence of the brain has been overestimated in the production of abnormal mental states.*
4. *That the organic emotion of fear has its origin in visceral conditions.*
5. *That organic fear is a primitive instinct and necessary to the preservation of the individual.*
6. *That abnormal organic fear is the basis of melancholia.*
7. *That melancholia is but the expression of abnormal visceral conditions.*

It may be said in the beginning that intelligence and emotion are not limited to brain cells alone. While the highest form of intelligence and the most exalted emotions are peculiar to brain structure, it is none the less true that intellect finds its physiological counterpart in cell intelligence, and that the higher and more ethical emotions find their physiological counterparts in the organic feelings, or in instinctive affinity and repulsion.

Intellect, as expressed through reason and judgment, enables us to adapt acquired knowledge to the necessities of the body and leads us to adopt such measures as are most likely to preserve the body against injury or disease; to select the food best fitted to purposes of nutrition; and to adapt ourselves to our environment or, if necessary, to modify our environment to our needs; but cell intelligence, in a limited degree, does the same. It selects the beneficial and rejects the injurious. It adapts itself to changed conditions. It obliterates the ravages of injury or disease by reproducing itself if it can, or, if this is impossible, the breach is temporarily repaired with scar tissue. More than this, it, too, adopts such measures as are most likely to preserve the body against the onslaughts of its enemies. Products of decomposition are both recognized and removed, while bacillary foes which escape the hygiene and asepsis of intellect, meet with stubborn and well-organized resistance at the hands of cell intelligence.

PROPOSITION I.—*That there are organic as well as ethical emotions.*

The same parallelism noticed between the intellect and cell intelligence exists, and is observed, between psychical and organic emotions. The body cell hates, and desires, and fears. It instinctively cleaves to that which is good and rejects that which is harmful. It shudders with a presentiment of coming harm and recognizes dangers which are imperceptible to the mental eye. It feels the presence of a foe even while judgment pronounces him a friend. It hates without reason; it desires without judgment; it lusts without a motive, and it trembles at dangers the mind knows not of.

While all emotions are known only as they are recognized in consciousness, yet it is evident that, although they have a common ground of recognition, they do not all have a common source of origin. Emotions such as joy, and sorrow, and hope, and grief,

may have a purely psychical content; while such emotions as hate, and lust, and desire, and fear, are organic in their nature and have their origin in sensations of organic life. They are associated with, and have their basis in, the fundamental elements of existence. The man who, in expressing certain emotions, "lays his hand upon his heart," lays it much nearer their source of origin than if he placed it on his head.

In certain forms of animal life all organic emotions are for the benefit and protection of the individual. Hate, or dislike, leads to instinctive caution; lust, to reproduction; desire, to that degree of self-assertion which secures the most possible good to the individual, and fear, to repulsion of objects of danger and consequent self-preservation.

These instinctive emotions always have existed and always will exist, and their proper use has served to preserve and perpetuate animal life, and it is only when they become unduly exaggerated by reason of disease, or faulty heredity, that they assume the expression of pathological conditions. It is abnormal organic hate that characterizes the misanthrope; it is abnormal organic lust that distinguishes the libertine; it is abnormal organic desire that marks the pathway of crime, and it is abnormal organic fear that grips the melancholiac.

These organic emotions, indeed, are the basic elements of our natures. They are coexistent with life itself. They are the outgrowth of those three fundamental principles, self-assertion, self-preservation, and reproduction, and, through all the vicissitudes of subsequent existence, they have preserved their identity and original characteristics, for they still cluster around the *self* as a body as they did around the *self* as a single cell.

Psychical emotions are, in fact, but modified organic emotions. Psychical hate is organic hate modified by reason. Psychical love is organic lust tempered by judgment. Psychical desire is organic desire held in leash by a knowledge of subsequent punishment, and psychical fear is organic fear throttled by courage or fortitude. But reason, judgment, courage, and fortitude were born but yesterday. They were acquired from others and were instilled into us through instruction and experience. They are the outgrowth of civil life and social requirements, while the emotions they seek to modify and control trace their genealogy

back to the very beginning of things, and had their origin in the vital necessities of life itself.

But nature is considerate during health, and the relation existing between a normal mentality and normal organic emotions is one of harmony and tranquillity, and it is only under abnormal conditions of one, or the other, or of both, that we find the disharmony and internecine disturbance which characterizes the criminal and the insane. In their proper and due proportions they react beneficially upon each other. Mentality holds the organic emotions in check, and the organic emotions contribute life, and color, and personality to the mind; while out of all these organic emotions, or, rather, out of all the organic sensations which we recognize in consciousness *as* these emotions, the mind forms the personal *Ego*.

But between the ethical emotions and the organic emotions there exists perfect peace and harmony only in the most favored individuals. With a large majority it is at best an unending struggle between protoplasm and ethics; between cell intelligence and education; between instinct and culture; between self-preservation and brotherly love, and it only requires that the controlling faculties of the mind become weakened by disease of the brain, or the organic emotions become intensified by reason of the perverted organic sensations accompanying diseases of the viscera, and then will follow crime, or insanity, or both.

PROPOSITION 2.—*That the relation of the body to the mind is that of master to servant.*

There is one feature in physiology of which we are woefully ignorant, and it transcends all others in importance, for it deals directly with the fundamental and vital elements of life itself. I refer to the relations existing between the brain and the visceral organs. Of the relation which the brain bears to these organs we have some small knowledge, but what of the relation which these organs bear to the brain? Do these organs, in which the essential and indispensable forces of life are continuously in active operation, have no influence upon the brain? Is it possible, that these engines of existence which can make and unmake every cell in the body, which can unravel the nervous network of the brain itself and knit it up again, can exert no influence except through nutrition? Are there no sensations of organic life?

Has the brain no knowledge of the conditions of these organs except through the quality of nourishment supplied?

The mind is not the fountain head and primal source of all human action, nor is the brain the sole repository, as well as originator, of all that a man thinks, and feels, and does. It is well to consider, and to realize, that in all the abnormal acts of civil and social life the organic emotions must be reckoned with. It is the body that is the *I*, and not the mind. While the latter may be denied none of its highest and holiest attributes, it is this body of mine, this flesh, and blood, and nerve, and bone, that makes me what I am. The mind may supply the most exquisite ethical, religious, and intellectual experiences, but it is this material body that is the source of temperament, of moods, of character, of a sense of well- or ill-being, of elation, of depression, of the organic emotions, of every fundamental expression of life. It moves, it breathes, it has its being, and, in spite of metaphysical teachings and religious dogmas, it holds the mind and all its attributes in the hollow of its hand. In health it is prime minister to the court of Mind, and in disease its influence over mentality is supreme. It is the chief arbiter of individual fate and, while we cry, All Hail! to man's crowning glory, the Mind, we bow our heads in calm submission and stand or fall at the command of a body cell. From center to circumference, from coccyx to phalanges, a thousand shuttles are weaving the web of destiny. They are forming hour by hour, and day by day, the warp and woof of existence, but the mind is wholly unconscious of what they do. Out of all this cellular work and turmoil, however, a flood of sensations sweeps over mentality, vague, uncertain, indefinite, but out of these is fashioned, in consciousness, the organic emotions.

These organic emotions are often the real mainsprings of action and in abnormal conditions of the mind they are always to be duly considered. "In other words," says Ladd, in *Philosophy of Mind*, "what the individual man is, physically considered, either in respect to the whole course of his psychical development or in respect to the more general features of his psychical life at any particular period, is dependently connected with the character and development of *the bodily organism*. This principle, thus broadly stated, admits of indefinite illustration and proof. It is enough for our present purposes merely to refer to some of its more

important applications. The peculiarities which distinguish the sexes are especially worthy of note here. In spite of the modern effort, in a political and social way, to minimize or overlook these differences, the scientific study of the male and the female of the human species, in both physiologic and psychical aspects, only serves to multiply and emphasize these differences. Not in those respects alone which are obvious to all do men and women differ. In very blood and tissue, and in the most subtle ways and hidden corners of the physical and mental being of both, are they unlike. And the differences of a mental sort are, many of them, *plainly assignable for their causes to original or developed differences of a bodily kind.* In the same connection may be mentioned the dependence of transient or more permanent psychical manifestations upon those bodily changes which belong to the different ages of life. That change in the sentiments which comes with the age of puberty, and the sudden and emphatic stress then laid on the psychical peculiarities of sex, are obvious enough. But psychology is just beginning successfully to investigate those important mental changes which go on far more slowly and quietly in constant dependence upon the growth, the nutrition, the waste, and the decay of the various bodily tissues. *The psycho-physical doctrine of disposition, or mood, as well as the physiological explanations of all matter of so-called diseased or abnormal mental conditions enforces the same principle.*" And Bastian says: "Again, by reason of the direct or indirect connection of the viscera with the brain, the organic states of the various organs are capable of influencing the temper or mental state of the individual, either consciously or unconsciously. Visceral states may, independently of their conscious realization, prompt to automatic or instinctive acts; or, they may impress themselves upon the conscious life of the individual, and lead more or less directly to a series of voluntary actions." Ribot also says: "Organic feelings form the self; amnesia of the feelings is the destruction of self."

I am afraid the tendency has been to exalt the brain pathologically above its real position in the bodily economy, and to do so by underestimating the importance of other organs. We are inclined to think that the superior psychological position of the brain not only lifts it above its less fortunate neighbors, but ren-

ders it immune from the contaminating influences of its distinctly plebeian surroundings; that it is a king in his castle, to whom the sickness or death of one or more of his subjects, among the countless toilers in the field, signifies nothing; that he can close his eyes to their sufferings and turn a deaf ear to their entreaties; that if he *does* adopt any revolutionary ideas they *must* have originated in his own household, for he would hold no communion with the rabble; that, in other words, if the brain shows any vagaries of function they must have developed within its own domain, for they could not have arisen at the suggestion of any baser tissue.

Under some circumstances it may be well to hold the brain strictly responsible for its own conduct and behavior, but, at the same time, it is also well to remember that it does not exist free and untrammeled, and that while its patron saint, Evolution, has done much for it in the way of culture and education, it still is encompassed by a horde of less fortunate friends and relatives, each asserting his kinship and pouring his tale of woe into a reluctant, perhaps, but not unsympathetic ear. Protoplasm has memory, and liver protoplasm has not forgotten when it and brain protoplasm lived together in a single cell, each equally helpful to the other, and it does not propose that brain protoplasm shall forget it either. To rise from the ranks is a commendable thing to do, even for an organ, but it has its disadvantages, and even the brain cannot cut itself entirely loose from early associates and ignore old friends and acquaintances, without the latter taking advantage of every opportunity to make their old companion realize that he is still dependent upon them for all that he is, and for all that he may be; that with all his boasted glory he is still of the earth, earthy, and that the wonderful intellectual fabric he has so patiently reared is but the substance of a dream, which may be displaced at any time by another dream, or completely dispelled by a breath.

No, the dominating influence of the sensations of organic life upon the brain must not be overlooked; nor must we ignore another fact. While the brain is, in a measure, isolated from other organs and occupies a cavity by itself, there are, in the sympathetic nerves, millions of cells identical with its own, or, at least, next of kin, that dwell in the very midst of life's industrial

hum; that feel continuously the pulse and throb of energy; that commune daily with tissue builders and blood makers; and hear the grinding of the mills; and see the elemental struggle at the making of a man; and know all the secrets of those marvelous laboratories which transform chemistry into energy; and observe the mysteries of life and death within the very heart of nature. Do these cells tell nothing to the brain of what they see, and hear, and feel? Does none of this heat, and turmoil, and roar, and rumble, reach the master mind, even though it awakens no conscious response? Does not the rumble and roar of machinery, after a time, fall unconsciously upon the workman's ear? But the rumble and roar is there, though he hears it not, and in the stillness of the night it will rumble and roar to the point of distraction.

PROPOSITION 3.—*That the influence of the brain has been overestimated in the production of abnormal mental states.*

It is possible that we have underestimated the influence of organic sensations in many mental conditions and have held the brain responsible for certain overt acts of mentality which really had their origin in visceral sources. A blow on the abdomen will cause unconsciousness as quickly and as effectually as when it falls upon the skull. It is extremely doubtful if the exhilarating or depressing effects of intoxication from alcohol are due so much to its direct effect upon the brain as to its primary influence upon protoplasm in every part of the body, with only a secondary influence upon the brain centers. Alcohol produces its effect upon all tissue and not upon that of the brain alone; indeed, the tissue changes caused by its excessive and protracted use are much more pronounced in the visceral organs than in the brain itself; and we cannot possibly conceive of alcohol, even when first introduced into the body, circulating freely in the blood but expending its force only within the cranium.

Alcohol produces the same symptoms of intoxication upon man, with his well-developed brain; upon animals with less brain; upon insects with still less brain, as well as upon forms of life possessing *no* brain. Dr. Weir, in his *Dawn of Reason*, says: "I have repeatedly noticed the action of alcohol on rhizopods. When small and almost inappreciable doses were exhibited, the little creatures became lively and swam merrily through the water;

but, when large doses were given, they soon became stupified and finally died." Thus single cells—protoplasm itself—can become lively and swim merrily and finally become stupified and die under the influence of alcohol. Can brain centers do any more than this? Here is a primitive single cell intoxication. The body is but an aggregate of single cells. Would it then be unreasonable to think that, in drunkenness, every cell in the body is intoxicated? Would it not be more reasonable to say this than to say, that, although bathed in alcohol, every cell in the body is sober except those of the brain?

With nerve and organic cells under the influence of alcohol the sensations of organic life carried to the brain would be pleasant indeed, and the fundamental tone of feeling would reflect the changed conditions. With every cell in the bodily fabric intoxicated and, perchance, as lively and as merry as a rhizopod under the same conditions, I can easily conceive of a flood of sensations being poured into the brain which could be elaborated into nothing but a sense of unusual exhilaration and of bodily comfort.

In fact, is not this sense of bodily comfort strictly of bodily origin? Is not the sense of bodily comfort following the use of morphine due to its effect upon individual nerve cells throughout the body, rather than to its isolated and limited influence upon the brain? The use of morphine certainly produces a sense of well-being, but because this feeling is present only in consciousness, and thus seems to reside only in the brain, it does not follow that it originates there merely as a result of the action of the morphine upon brain tissue. When, after long use, the morphine is withdrawn, the bodily sensations then occurring indicate the points where the influence of the drug was first felt. Not alone brain cells, but every cell in the body has been stupified, and stupified cells do not digest, or assimilate, or store up glycogen, or secrete, or excrete, in a normal manner, and this stupefaction of the agents of metabolism has more to do with coexisting mental conditions than any direct effect of the drug upon the brain itself. To be sure, opium will stupify a brain cell, as it does other cells, and this stupefaction will result in a sluggish mentality, but a sluggish mentality does not strike at the vital sources of existence as does a sluggish liver, or a sluggish heart.

For this reason opium has been discontinued as a remedy in

melancholia. It was originally used because it was believed that it excited a directly "comfortable effect" upon the brain, and would thus dispel the morbid tone of feeling which permeated mentality. It was thought that the morbid feeling was due altogether and solely to mental derangement and that relief would come from a drug supposedly directed exclusively to the brain. The truth is, that the stimulating and cheerful effect witnessed in some cases was due only to the influence of the drug on the sympathetic nerve cells, and the modified sensations of organic life in consequence thereof. That this is true is evidenced by the fact that, while this benumbing of the visceral nerve cells gave some mental relief from the morbid sensations arising from pleuro-peritoneal sources, it also, at the same time, by reason of its similar benumbing effect upon metabolism, provoked and eventually increased the morbid tone of feeling which it was meant to assuage.

That the sense of comfort and well-being experienced after the administration of morphine is due to its stupifying effect on the sympathetic nerves, which thus prevents the transmission of sensory stimuli from visceral organs to the brain, and, consequently, prohibits the occurrence of feelings of discomfort or depression, is shown by the fact that upon the withdrawal of the morphine the most disastrous results follow. "The most marked symptoms," says Fisher, *Nervous Diseases by American Authors*, "are observed upon the withdrawal of the drug (morphine). There is intense anxiety, a dread of some impending evil; the person may then become maniacal. There is marked insomnia and restlessness, with depression, and frequently suicidal intent."

In other words, while the use of the morphine excites, in itself, general functional disorder in all viscera, the brain remains in ignorance of this universal calamity, because the influence of the drug on the end organs, located in the viscera, prevents the passage of sensory stimuli and the consequent recognition in consciousness of the deplorable condition. In the absence of all visceral sensory stimuli consciousness experiences a sense of ease and comfort. But when the drug is withdrawn; when visceral nerves, freed from the restraint of sedation, again awaken to their duty, what an overwhelming torrent of morbid sensory stimuli are carried to the brain. Practically every cell in the body has

been pouring its tale of woe into an ear deaf to all entreaty, but, now that communication has been re-established, and every nook and cranny of the body is flooding the brain with the most direful stories of death and disaster, is it a matter of surprise that "there is intense anxiety, a dread of some impending evil, and the person may even become suicidal?"

Brunton says: "From this producing a feeling of comfort and mirth cerebral stimulants are also called exhilarants. The functional activity of the brain depends upon the tissue change which goes on in the cells and fibers which compose it, and the amount of tissue change is regulated to a great extent by the quantity and quality of the blood supplied to the organ." This is all very true, but the application is incorrect. He forgets that the effect of the drug is to produce a thousand times more change in cells and fibers outside of the brain than inside. He forgets to take into account the very obvious fact that every individual cell in the pleuro-peritoneal cavity feels, and responds, to the influence of the drug just as much as the brain cells do. He forgets that this response of the brain cells, which he calls "comfort," is simply the summation of responses from cells elsewhere in the body. Comfort does not arise from the condition of brain cells, neither does mirth, or a sense of well-being. There are no sensory cells in the brain. Comfort and exhilaration come from visceral conditions. An increased circulation of blood in the brain, regardless of quality, does not in itself produce a feeling of comfort. Nitroglycerine causes a marked increase in cerebral circulation, but while it may stimulate the intellectual function of the brain, it certainly does not conduce to comfort. On the contrary, the result is headache. No amount of cerebral stimulation will produce a feeling of comfort while there is acute pain in any part of the body. Whenever the drug, by means of increased circulation, and, consequently, increased secretion and excretion over a large area of the body, or by any other means, produces a condition of comfort in organic cells, then, and not till then, will the fact be recognized by the brain as a feeling. But because the condition of comfort is recognized by the brain does not indicate that it originates there, any more than that the objects we see or touch have a cerebral origin.

We find no difficulty in referring external sensations to their

proper objects; then why find the application to internal sensations so perplexing? It is safe to lay down as a fundamental proposition that no sensation can originate in the brain. The brain receives and interprets sensations, but cannot originate them. All feelings of bodily comfort or discomfort, then, must come from sensations received by the brain but originating elsewhere. Accepting the proposition that their origin cannot be central, and that they must exist before this feeling of comfort can occur; then we are reduced to the simple statement, that before there can be a sense of well-being there are sensations, and that these sensations must have their origin either outside or inside the body proper.

Of the sensations arising on the surface of the body nothing need be said, for these are quite well understood. The sensations arising inside the body, however, are not well understood and, consequently, can only be approached theoretically, though experience has thrown considerable light upon the subject. That there is a conscious organic pain, no one will deny; that there are also conscious organic sensations which are something less than pain will also be accepted; but can we carry the argument further and say that still less intense sensations also occur, which do not rise above the threshold of consciousness, but exist in subconscious cerebration as a fundamental tone of feeling? The sense of touch may be so intense as to be painful, or, with decreasing intensity, it may awaken less and less response in consciousness until it may finally exist only in subconscious cerebration and exert its influence as in dreams, where the exposure of the body to cold air during sleep precipitates a dream of snowstorms or of icebergs. I can see no good reason for not believing that the organic sensations which exist at one time as pain, can likewise occur in less and less and still less intensity until it falls below consciousness and yet be active in the formation of that feeling which is known in consciousness as well- or ill-being, as comfort or discomfort, or, more properly, as a fundamental tone of feeling, which gives color to all mental operations.

It is not necessary that we should be conscious of the actual sensations of organic life in order to testify to their existence. From every cell and organ of the body there is a flood of sensations pouring in upon the brain, and especially is this true with

reference to organs participating in the vital processes of life. That they are unrecognized in consciousness as real sensations is no evidence against their existence, for, while their intensity, as a rule, is such that they do not rise above the threshold of consciousness as an acute sensation, yet their presence is amply vouched for in consciousness as a general sense of well- or ill-being, which may become at any time a definite organic emotion.

Itching, that is, an irritation of nerve filaments, is transmitted to the brain as a peculiar sensation. This sensation irritates consciousness and demands relief. But if the individual determines not to yield to the call for relief, or, indeed, is, by force of circumstances, unable to do so, the irritation directed toward and received by the brain is none the less intense; if, however, attention is so completely engrossed otherwise that the individual is wholly unconscious of the situation, are we to conclude that the irritation projected against the brain cells is any the less intense because consciousness is too preoccupied to give it heed?

Visceral conditions and organic states generally, furnishing, as they do, the material out of which emotions are fashioned, have more to do with mental states than we are inclined to believe, but the fact that the sense of bodily comfort; the organic emotion of fear; the depression of spirits; the moods; and all other mental states are known to us only in consciousness, and consciousness being associated in our minds exclusively with the *brain* has been the means of leading many an earnest seeker for truth astray. They have delved long and deep in this inviting but barren field, but hope and confidence have been so strong, and the quest has been so alluring, that many still believe that the pot of gold is buried at the rainbow's end and they have only to delve longer and deeper to secure the anticipated treasure; but so far as the emotions are concerned, or so far as it may involve the origin of emotional insanity, there is little hope for success.

"For these and other reasons," says Professor Ladd, of Yale, "the best evidence obtainable from pathological cases, when collected and sifted, appears surprisingly confusing and self-contradictory. Brain pathology has, therefore, furnished the common fund of cases from which the most diverse and even contradictory theories have drawn at sight their stock of so-called proof. It has been used as the careless and false witness upon

which either party, and all parties to the suit, could call for precisely the testimony desired." While this is only too true it is not the intention to claim for it too wide an application, for the evidences of brain pathology in abnormal intellectual states, as in idiocy, imbecility, dementia, and general paralysis, are at least sufficiently established to call for further investigation, but in the emotional insanities, I believe it is useless to longer probe the brain for a secret it does not hold.

PROPOSITION 4.—*That the organic emotion of fear has its origin in visceral conditions.*

While it may be universally admitted that fear, as an emotion, exists, the statement that the emotion of fear has its origin in visceral conditions, and not in the brain, may not be so readily accepted. True, the feeling known as fear is recognized only in consciousness, but whence arise the sensations which give origin to fear in the absence of any conscious knowledge of danger? If all feelings must originate in sensations, from whence come the sensations which produce the feeling of fear? Must they originate in the brain? Do organic sensations have no influence upon mentality? Are the relations existing between the body and the mind so remote and so indefinite that visceral conditions can have no effect upon psychical states?

I am slow to believe that morbid feeling must necessarily originate in a diseased brain. Is the depression and irritability that comes with hunger dependent upon the hunger of brain cells alone? Is it not due rather to the hunger of visceral cells sending their protestations to the brain, which reproduces them as a feeling of depression and irritability? Does the feeling of hopeless and intense fear which accompanies angina pectoris originate in the brain, or does it originate in the heart itself, the brain standing only as mediator or interpreter between the organic sensations and consciousness, just as it stands as interpreter between external sensations and consciousness?

Ladd, *Philosophy of Mind,* says: "In all intense or emotional forms of feeling the presence of factors that have their origin in the condition of the peripheral parts of the bodily organism is obvious enough. The peculiar modifications of consciousness in which strong anger, fear, surprise, grief, etc., consist are undoubtedly largely due to the condition into which the muscles, the

vasomotor system, and the internal organs of the chest and abdomen are thrown. Without using an unjustifiable figure of speech, we may say that these emotions are, to no small extent, feelings *of* the accompanying bodily conditons." "The emotions and passions have no centers in the brain," says Clevenger, "but arise in the body generally and later affect consciousness, as shown by your asking yourself why you grew so angry, why you should have done this, that, or the other impulsive thing."

I believe this proposition can be safely laid down: That if the brain could exist and perform its psychical function, separate and apart from the body, it would never know the feeling of fear. Dr. Lange, a Danish physician, first suggested that the organic conditions, with their various manifestations, are the primary elements in emotions, and that the emotion itself is nothing but the revelation of these things to consciousness. He says: "The nature of the interested organ determines the special character of the emotion which is produced, the intensity of the modification determines the agreeable or disagreeable tone of the emotions. The affective life is thus intimately related to the fundamental phenomena of organic life."

"The most careful observers have remarked," says Ribot, "that the emotional faculties are effaced much more slowly than the intellectual faculties. At first thought it seems strange that states so vague as those pertaining to the feelings should be more stable than ideas and intellectual states in general. Reflection will show that the feelings are the most profound, the most common, and the most tenacious of all phases of mental activity. While knowledge is acquired and objective, feelings are innate." And here he points unmistakably to the source of these feelings. "Primarily considered, independently of any subtle or complex forms which they may assume, *they are the immediate and permanent expression of organic life.* The viscera, the muscles, the bones—all the essential elements of the body—contribute something to their formation."

Fear is an instinctive emotion intended for the preservation of the individual, and must of a necessity spring from the vital processes of life itself. It cannot be dependent upon mentality; it cannot even be dependent upon the brain as the source of its origin. It must be equally active and efficient in man, with his

well-developed brain; in the animal, with a deficient brain, and in the amœba, with no brain at all, and in order to be so universally applicable it must reside in some tissue common to all, namely: Protoplasm.

Professor James has emphasized with great skill and in an interesting way that organic changes are not merely an expression of the mental state, but *that they are its material cause and support.* "What kind of an emotion of fear would be left," he says, "if the feelings neither of quickened heart-beats nor of shallow breathing, neither of trembling lips nor of weakened limbs, neither of goose-flesh nor of visceral stirrings, were present, it is quite impossible to think. Can one fancy the state of rage and picture no ebullition of it in the chest, no flushing of the face, no dilatation of the nostrils, no clinching of the teeth, no impulse to vigorous action, but in their stead limp muscles, calm breathing, and a placid face?"

There can be no purely mental fear. The consciousness or recognition of danger without any bodily reaction would not be fear at all, indeed, there would be no especial feeling present; there would be simply a perception. Quickened heart-beats, shallow breathing, trembling lips, weakened limbs, goose-flesh, and visceral stirrings, are the essential ingredients of fear, and there can be no fear without them. This trembling of the lips, and quivering of the limbs, and stirring of the viscera, creates the feeling; that is, we feel the stirring viscera and other phenomena and we call this peculiar feeling *fear.* Consequently, whenever there is this stirring of the viscera, etc., whatever the cause, we will experience this same feeling of fear, and these phenomena will always occur whenever there is an organic reaction to danger.

It has been contended by some writers that fear is but the mental expression of a recognition of danger by the mind, but such a position is scarcely tenable, for it presupposes the possession of a mental faculty. The fact is, if the feeling of fear was necessarily dependent upon a mind it could be felt by none of the lower animals, nor by man in conditions of imperfectly developed mentality, as in idiots, while, on the contrary, observation teaches us that this feeling of fear is more potent and more powerful in the lower animals and in idiots than in individuals with strong and active minds. The less dominating the mind may be the more

intense this fear. It is felt alike, save in intensity, by all classes and all races of men; by all species of animals; by the very lowest forms of animated existence; and this, too, under whatever name it may appear, whether as the instinctive repulsion of the amœba, the timidity of the animal or the dread and apprehension of the man. And this same fear, springing from "visceral stirrings," and morbidly increased by bodily disease, is the ground-plan and underlying principle of melancholia. In emotional insanity the architect and designer is some visceral disorder, the emotion is the foundation, and the subsequent delusion is the superstructure, giving form and outline to the whole.

"That the sensations of organic life," says Ferrier, *Brain and Mind*, "are represented in the cerebral hemispheres, directly or indirectly, is plain from the extraordinary influence which states of the viscera exercise on the emotional tone of the individual. Healthy states of the viscera produce pleasurable feelings, and morbid states of the viscera produce painful or depressing feelings. Visceral derangements are frequently the cause, and always the accompaniment, of melancholic depression."

If a man was all mind and possessed no body he would never know what it is to fear. If there is any good reason for believing that an angel is supremely and continually happy, it is that the separation from the body is complete, for the utter annihilation and eradication of fear would in itself be sufficient to make this earth a heaven and every inhabitant an angel of everlasting joy.

PROPOSITION 5.—*That organic fear is a primitive instinct and necessary for the preservation of the individual.*

Among these organic emotions no one stands out so prominently as fear. Hunger, fear, and sexual desire, are the three fundamental protoplasmic principles, and on these three hang all the law and the prophets of biology. Hunger assures the maintenance of life; sexual desire the reproduction of life, and fear the preservation of life. This organic, or instinctive, fear is inherent in protoplasm itself, and is older than the mind by millions of years. It is not the result of ethics, or of culture, or of education. It originated with the primitive cell, and to this one emotion, more than to any other, is due the preservation, not only of the individual, but of the race itself; and the fear of the single

cell is reproduced and multiplied a million times by the aggregation of these million cells in a single body. Preyer says: "It is altogether wrong to maintain that a child has no fear unless it has been taught him. It is native and associated with all new impressions and is associated exclusively with the idea of injury to the individual." Fear is natural, inasmuch as it is a provision of nature, and it is organic because it is inherent in the body cells.

The cause of the feeling of fear lies in organic sensations. It is the result of a reaction to danger on the part of body cells. The changes which occur in body cells in the presence of danger reach the brain as sensations, and these are represented in consciousness by the feeling which we call fear. That these organic sensations precede the feeling of fear is capable of demonstration. In the presence of sudden and unexpected danger the muscular recoil, the respiratory spasm, the constriction of the heart, and the universal thrill which seems to proceed from every individual cell in the body, is oftentimes experienced before we become conscious of the feeling of fear. In other words, the cellular reaction to danger in these cases is so pronounced, and so intense, that we are conscious of the sensations of reaction before the brain can translate them into a feeling of fear. And this is why the individual, during this momentary period of time, is seemingly paralyzed and makes no effort to escape. He recognizes that the entire body is permeated with strange and unusual sensations, but, until the brain reproduces them in consciousness as a feeling of fear, *he is unable to know their origin or what they portend.*

In the case of external sensations of danger coming through the special senses, there is some difference. In the reaction of body cells to internal danger we are unconscious of the source of the resulting organic sensations, and the mind can only translate them into the feeling of organic fear, without knowing what it dreads or where it will attack, but, in the presence of external danger, the mind cannot only recognize the source but can also comprehend the nature and extent of the peril. Consequently, there thus enters into the equation a mental faculty, judgment, which is not present in the fear arising from cellular reaction to disease.

When a man sees an object of danger, or hears of one, or even

thinks of one, this intelligence is conveyed through the sympathetic nervous system and every body cell is placed in a state of defense; this attitude of defense sends sensory stimuli to the brain and these are elaborated into fear. It is not the fear which causes the bodily condition—the intelligence of danger does this—it is the reaction of the body to this danger which causes fear. This bodily reaction to the presence of danger is as old as protoplasm itself. The mind, however, is able to detect external danger where protoplasm would not, and the function of the mind is to report either known or foreseen danger—the body cells will do the rest, and this "doing the rest" will produce the feeling of fear. That this is true is shown by the fact that, although the mind recognizes a danger, every result of this recognition is involuntary, whether it be the action of the heart, or of the lungs, or the characteristic muscular phenomena.

The bodily reaction to the presence of an external danger depends much upon judgment. If judgment can convince the body cells of their safety; can imbue them with a sense of security; then there will be no cellular reaction and consequently no fear, no matter how great the surrounding danger may be. But if the mind conveys this intelligence without the accompanying cellular assurance, the body reaction follows in spite of judgment, as during epidemics of disease or in panics; that is, if judgment acts at all in the latter instance. The facility, ease, and completeness with which this assurance can be conveyed, and the degree of conviction with which the body cells receive it, determines the individual's actions in the face of danger. A brave man is one whose judgment is able to perceive that the danger is more fancied than real, or, in the presence of real danger, can assure the body cells of their safety, and in either event he feels no fear.

Knowledge of external danger that is made known by means of sight, hearing, taste, or smell, must come by way of the brain, but this knowledge must be conveyed to the body cells before there can be any reaction to the danger and, consequently, any feeling of fear. It is not the influence of the mind on the body; it occurs with equal positiveness in animals without mind. The purpose of the mind in this particular is to detect more readily the presence of danger; more especially to convey the intelligence

of foreseen or possible danger to the body cells, and to devise additional measures for escaping its consequences. As the mind succeeds in devising means for averting the danger, bodily reaction diminishes, and as bodily reaction diminishes fear disappears, and caution, an acquired faculty born of judgment, takes its place. Fear is instinctive and, when strong, dominates intelligence; caution is acquired, and is an aid to intelligence. Fear is weakening, enervating, paralyzing; caution serves to steady and to strengthen. Fear is a product of the body; caution an evolution of the mind. A man preserves himself from harm by caution; an animal by timidity. And just as the mind or the body predominates; just as the acquired or the physiological function controls; just so will a man show caution or timidity in the presence of danger.

The brain, then, or the mind as its function, cannot originate the feeling of fear. Either of them can do no more than convey the intelligence of danger and, in some instances, an assurance of safety. If the mind really felt the fear before any bodily reaction had taken place, there never would occur such demoralizing results as follow the sudden alarm of fire, or occur during panics from any cause. It is in panics that we see the organic fear of the multitude so plainly in evidence. Every body cell in every individual, and every individual in the multitude, is blindly struggling for the preservation of life, as protoplasmic masses have ever struggled for existence since life began. In these instances few have any actual knowledge of the danger to be avoided, but they feel the fear, *and they feel it without any intellectual assistance.* If the mind originated the fear it would always be in due proportion to the degree of danger, which is not the case. The mind would perceive the real significance of the danger, and, where no injury could possibly occur, would prevent the origin of this fear, instead of trembling with apprehension, the while it was quite convinced no harm could befall.

The "nervousness," or "stage fright," or whatever it may be called, which attacks the actor, singer, or public speaker, is not the result of intellectual fear founded upon reason and judgment, but is this same organic fear, this same cellular reaction to fancied danger, and is absolutely beyond his control. It is the same organic emotion that causes the bird in the hand and the hare in the trap to tremble with apprehension. It is bodily, not mental,

in its origin, and is not subject to mental control. The mind would not voluntarily create a feeling which it could not control. If its creation is involuntary, it must have its origin elsewhere than in the mind. Mental acquirements teach us to be cautious; to avoid danger; to plan, or even improvise, new methods of escape, but they do not teach us to fear.

We are not taught to fear. It was implanted in the primitive nature of the first cell. It is not a product of education, except those centuries and centuries of self-instruction which protoplasm has experienced since the first dawn of life. Mentality, as it further develops, may acquire more and more control over this bodily reaction to danger, but protoplasm has not yet delivered its safe keeping into the hands of any acquired function, no matter how high the latter may rise in the scale of morality or intellectuality. Protoplasm is neither moral nor intellectual, but it has preserved its integrity through these millions of years without either morals or intellect, and the time has not yet arrived when it will unquestionably surrender itself into their care and keeping. In times of real danger protoplasm reacts, and it reacts exactly as it did a million years ago. Originally this reaction was simply a form of chemical repulsion, whereby elements without affinity were repelled. The chemical repulsion was the sum total of the phenomenon. But later, as the brain developed, this act of chemical repulsion was recognized in consciousness, and its association with the presence of danger became more and more evident. In the course of time, and because of repeated experiences, there finally came a mental reaction in response to the bodily reaction, and then whenever organized protoplasm reacted to the presence of danger the effect of such reaction was *felt* in mentality. Thus, the mental equivalent of the bodily reaction to danger was recognized in consciousness as a peculiar emotion which received the name of *fear*. And this fear, whether caused by bodily reaction to real or imaginary danger, or whether it be temporary or persistent in its nature, is the same fear, and produced in the same way, as the fear of the amœba would have been had it possessed, in addition to its protoplasmic reaction to danger, the power to *feel*.

The facility, ease, and completeness with which bodily cells react to danger depends upon habit and upon disease. The bodily

cells of some people react upon slight provocation and they are cowards in spite of all attempts to appear courageous; while the fearfulness and timidity of the sick man is the personal experience of most of us, especially if the illness is of such a nature as to implicate all the organs of the body, and at the same time not so overwhelming in its toxicity or intensity as to exert a paralyzing effect upon the sympathetic nerves, thus abolishing all sensory stimuli, or so benumbing in its action upon the brain as to prohibit its recognition of sensory stimuli or their elaboration into a conscious feeling. In the infectious diseases, as a rule, the action of the highly toxic blood upon the brain is such as to obliterate all consciousness of the bodily reaction to the danger, and no fear is felt, just as the melancholiac, during acute illness "forgets his fear," and is thought to be much improved mentally; or the delusion gradually disappears under the disintegrating processes of dementia.

Disease of the brain can prohibit the feeling of fear by a non-recognition of the sensory stimuli which produce it, but no disease of the brain can originate fear. An excessive irritability of the brain may exaggerate *normal* bodily reaction to danger, but this normal bodily reaction can only come in the presence of real danger and, consequently, will not be continuous. *A continuous feeling of fear can only come from abnormal bodily cells which are reacting to a disease whose toxicity is neither so overwhelming as to prohibit the reception of sensory stimuli by the brain, nor so acute as to awaken the attention of consciousness to the fact of its presence.* And this is why certain abnormal bodily states are so prone to precipitate a condition of melancholia, which would not follow or accompany the more intense manifestations of bodily disorder which are associated with the acute infectious diseases.

PROPOSITION 6.—*That abnormal organic fear is the basis of melancholia.*

Having shown the important relation existing between visceral conditions and mental states, and having endeavored to establish fear as an organic emotion having its basis in cellular sensations, it now becomes necessary to consider the relation which fear bears to melancholia and, consequently, what connection, if any, exists between melancholia and visceral conditions. Melancholia is a

condition of mind, characterized by a more or less intense feeling of abnormal fear, which may find expression in mild despondency, as in neurasthenia, or in a profound psychical depression, with or without agitation, as in emotional insanity.

Practically all the delusions incidental to melancholia cluster around the feeling of fear. Clouston enumerates the delusions of 100 female melancholiacs taken at random, and the character of these delusions plainly indicate how closely and intimately they are associated with this primitive organic fear. There are delusions of persecution; of suspicion; of being poisoned; of being killed; of being ruined; of being conspired against; of being defrauded; of being destitute; of impending death; of calamity; of the soul being lost; of having no stomach; that she is to be murdered; to be boiled alive; that she is in hell; being tempted by the devil; being possessed by the devil; having committed the unpardonable sin; fear of being hanged; fear of being tortured; fear of living forever; fear of taking food, and so on through a long list. Fear! Fear! Written in every lineament of the face and stamped upon every muscular movement. This is the heritage of the melancholiac. Struggling in an agony of fear with the nurses, who have become, by reason of her delusions, devils of destruction; shrieking for assistance to save her from a horrible death; plotting and planning to outwit her persecutors; stealthily secreting herself to await the coming of the mob; arming herself, if possible, determined to defend herself to the death; crouching in hidden and out-of-the-way places where she hopes to escape her enemies. Fear! Nothing but Fear! An emotion as primitive as life itself; founded upon organic sensations and bearing the most intimate relation to the fundamental elements of existence. Fear! An intense, abnormal, overwhelming fear. Learned men call it melancholia.

It is not to be wondered at that an organic emotion, which has preserved the race through all the vicissitudes of animal existence, and to which the individual, as well as the special organ, and, likewise, the single cell, have promptly responded whenever recognized, should find the same ready response whenever felt, no matter whether its origin be normal or pathological or whether the cause of its origin be fancied or real. Education has been directed toward the restraint of this unreasonable fear, as society is pleased

to call it, but despite all education and all culture it rises to the occasion in supreme moments, and proves itself more effectual in the preservation of the individual than any methods devised by reason or judgment. For this reason, it is not surprising that during its pathological manifestations, whether in the form of momentary panic, or in frenzy, or in the more permanent condition of melancholia, the individual should forget the lessons of yesterday, which taught brotherly love and self-sacrifice, and should revert at these times of greatest fear and apprehension to the original and eternal principle of self-preservation.

The effect of this abnormal fear upon the melancholiac does not differ, except in the period of time involved, from the effect of uncontrolable fear upon any other individual. The man or woman who stands paralyzed with fear, gasping for breath, with a sense of constriction about the heart, face pale, eyes wide open with terror at the sudden and unexpected sight of a garter snake, eighteen inches in length, which could by no possibility injure them, differs in no particular from the melancholiac who feels all this terror but must invent some external object as its source. There is no actual danger in either case, and the man, recalling his experience with the snake, will laugh at the incongruity of the situation; and so does the melancholiac, after recovery, laugh at the absurdity of his fears—but not at the reality of the experience. After the feeling of fear has disappeared both can realize the absence of an adequate cause, but both will repeat the experience under the same conditions.

Organic cells will react to danger, and in times of disease and visceral irritation they respond with less and less apparent provocation, until in some bodily conditions, a state of panic is readily produced, which will continue as long as the conditions which give it birth persist. Heredity, likewise, plays an important rôle in these states of fear. Some individuals there are who from birth have been abnormally timid; who scent danger from afar; who feel an element of peril in the slightest touch; who see death and disaster in every fleeting shadow. They react organically to every passing breeze of direful portent, and these organic sensations keep them continually on the *qui vive* for anticipated danger. In some, indeed, this organic reaction is so abnormally developed that they may at any moment be grasped in the clutches of uncon-

trollable fear without any external cause, and without any internal disorder, save the abnormal organic reaction itself. From these cases melancholia receives a long line of recruits.

The feeling of fear is so closely associated with the idea of danger, that its mere presence leads the individual to spontaneously take measures for protection; and if it is abnormally strong in the manner of its presentation it will find due recognition in consciousness, whether or not there exists any known cause for its presence. It has been recognized for so long a time, and has so seldom betrayed its trust, that the simple fact of its presence is, to many, incontrovertible evidence that danger is near, despite all appearances to the contrary, and the organic reaction finds a ready and willing ally in the intellect itself. Presentiments, and moods, and indefinite feelings of coming evil, have frequently taken possession of the man, but they have been mild and conciliatory in their manifestations, and, after a temporary occupancy, have, by means of counsel or cajolery, been dispelled. The absolute and all-compelling terror which takes possession of the man in melancholia is not to be dispelled so easily. On the contrary, it is so formidable in the method of its revelation, and so unquestionable in the manner of its conviction, that the intellect is enlisted in its cause and, instead of opposing its course, becomes at once its mentor and its friend. The degree of implication of the intellect depends upon the strength of the feeling and the success or facility with which reason and judgment can decide upon a possible cause or condition as the source of all this mental pain, for, until reason and judgment *do* adopt some object or condition as the cause, there can be no delusion, and the feeling remains vague and uncertain, though none the less real, until the physical conditions which gave it birth have passed away.

Fear! Fear for the self, the organic fear of protoplasm, is the essence and the all in all of melancholia. An abnormal fear which, in its very intensity, seems to be a reversion to the primitive instincts of protoplasm, and which sweeps away at a single stroke all the results of years of culture and education. A fear which drove the most timid wild animals to hide in gloomy caverns; which now drives many men unceasingly to wander up and down the face of the earth; which grips the heart, and blanches

the face, and, at times, makes abject cowards of us all. It is not a question alone of intellect or intelligence, but of organic reaction to the presence of danger, or to the irritability of body cells. It shows itself alike in the man who, without any reason for anticipating danger, is afraid to go out of the house at night, and the melancholiac who, without any good reason for so believing, is afraid to eat for fear of poison in his food, save that the latter has known no peace until he has evolved some *reason* for the fear he feels.

This disposition on the part of some to insist upon a mental reason for the fear which they feel, is the cause of delusions in melancholia. In neurasthenia the same feeling of fear is always hovering in the background, but in so mild a degree of intensity that the individual is content to regard it as a constant and annoying source of depression, without attempting to account for its origin, but in its more powerful manifestations the sense of impending doom is so convincing and so all-pervading, that reason herself is aroused to the seriousness of the situation and the necessity of taking some measures to save the individual from destruction.

It is at this point that the maneuvering of the intellect is first observed. Taking into consideration that this feeling of fear portends coming evil, and that it has hitherto possessed all the reliability of a primitive instinct, the intellect concludes that its mere presence may be conclusively accepted as evidence that something is going to occur. More than this, if the mere presence of the feeling of fear can be received as an indication of danger, then, the unusual intensity manifested in the present case can only indicate that the danger is not only near, but extremely serious in its nature. The fact that the mind, at this point, can neither touch, nor smell, nor taste, nor hear, nor see, any object of danger, leads only to temporary doubt, if any, for the presence of so much fear with no discernible object as its cause only suggests a new idea, and that is, that the danger is none the less real, *but that it will come in some mysterious and unusual manner;* and from now henceforward imagination runs riot through all the probable and improbable causes, until one is found which seems to fit into, not only the present conditions, but into the

temperament, teaching, and all the peculiar characteristics of the individual, and the delusion is born.

I have gone thus into detail because it is important to understand that the delusion in melancholia is the result of the exercise of both reason and judgment. It is not an idea which slips in, under the stress and strain of fear, only when reason and judgment have been abrogated by disease. The delusion comes in no clandestine manner. It is born of a necessity, it is true, but its origin is legitimate, and it is stamped by the seal of reason and stands approved by judgment. Were it not so, reason and judgment would not voluntarily rally to its support, nor defend it so strenuously against subsequent attacks. True, if judgment and reason are weakened and impaired they will be less critical in their choice of a cause, but if the choice is made; if a cause is finally adopted; the degree of intellectual refinement shown in its selection matters but little. The acceptance of some object or condition as the cause of the fear is the point. If the delusion is once born, it matters little what the conditions of labor may have been.

In the selection of a delusion in melancholia it should be no cause for surprise that it so frequently embodies the mysterious and undemonstrable, for, instead of indicating that the intellect has no part in its formation, it is additional proof that reason and judgment are involved in its creation. The fact that this feeling of fear can be accounted for in no ordinary way forces the intellect into the region of the mysterious for its solution. Besides, no average judgment would accept trivial and *palpably impossible* things as a cause. Reason would have to be weakened and impaired, indeed, for a man to accept the proposition that a certain tree in the yard was going to pull itself up by the roots and come into the house and hit him on the head; not that this proposition is too unreasonable alone, but that he can recognize, in the midst of all his mental turmoil, the transparency of the statement *because of his familiarity with trees and their limitations.* Thus it is that delusions will be found, as a rule, to have been gleaned from those sources with which the deluded one is least familiar for, while reason and judgment may be led astray by the pressure of circumstances, they will not voluntarily subscribe to self-evident error.

A deluded patient seldom formulates into a false belief such propositions as these: Black is white; eight times four is seventeen; the square on the hypotenuse is equal to a right angle. Such statements are too obviously opposed to reason and judgment. Instead, he selects a cause of which he knows little or nothing, or which might be true, and the nearer he comes to selecting something of which he has no real knowledge, or something which no one else can positively prove to be false, the more eagerly does judgment embrace it. If he finds the fulfillment of his fear in the conspiracies of enemies, which may or may not be true; or in secret societies, of which he knows little; or in electricity, of which he knows less; or in everlasting punishment by a God, of whom he knows nothing; or in the infidelity of his wife, which no one can disprove; or in anything else, which can not be demonstrated, the judgment encounters little difficulty in accepting it.

The position occupied by this feeling of fear, whether above or below the threshold of consciousness, depends upon its intensity. This much we know: That there is a present sense of well- or ill-being; that in its normal tensity it forms a fundamental tone of feeling, which is known as temperament; that we recognize variations from time to time, and we call these moods; that this feeling must have its origin in sensory stimuli; that the elaboration of these stimuli into feeling lies outside of consciousness; that these sensory stimuli do not arise from external conditions, for if they did we would be conscious of both the source of these feelings and the cause of every modification they might undergo. More than this, I believe we may safely add: That this fundamental tone of feeling has its origin in visceral conditions; that these visceral conditions determine not only the normal temperament of the individual but his moods as well; that by reason of certain general abnormal conditions of the visceral organs, this tone of feeling becomes exaggerated and abnormal, resulting in depression of spirits and a universal sense of ill-being, known as neurasthenia; that further increase in the intensity of this abnormal sense of ill-being eventually provokes the intellect to search for a cause; that this search for a cause develops a false belief; that this false belief finds its expression in language, and thus perpetuates both itself and the accompanying feeling in

memory, and that the adoption of this false belief begets new methods of thinking, and acting, which, in connection with the already present abnormal feeling, are resolved into a peculiar mental condition known as melancholia.

PROPOSITION 7.—*That melancholia is but the expression of abnormal visceral conditions.*

For myself, I can see no good reason why there should be any doubt about the origin of melancholia in visceral conditions, rather than in a disease of the brain. In pure melancholia, uncomplicated by dementia, I can see no such involvement of the intellect as to justify us in longer pointing the finger of suspicion at the brain. Disease of the brain will find its expression, if it finds it at all, in disorders of the intellect, not in any intensification of the emotions. Intensified emotions may find more freedom of action in the presence of impaired intellect, as in dementia, but, nevertheless, the emotion is the basic principle and the moving spirit in melancholia, and this emotion in itself would constitute melancholia regardless of the intellectual condition. In the idiot, in the dement, in one who is neither idiot nor dement, an abnormal fear is the same. In the presence of the intellect it takes on the additional characteristic of a delusion; in the absence of intellect it exists as a profound depression without any delusive significance, but in either event the emotional mental condition is due to this same organic fear.

One writer says: "Nutritive disturbances of the cerebrum being the principal causative factor (i. e., of melancholia) psychical distress and a sense of woe and uneasiness are the ways by which the brain expresses its lack of proper nourishment"; but this scarcely agrees with well-recognized facts in the case. In those mental conditions attended by the most pronounced insufficiency of brain nourishment, "psychical distress and a sense of woe and uneasiness" are seldom present. In no other condition of the brain can there be a greater deficiency of nourishment than in advanced dementia, but "psychical distress and a sense of woe and uneasiness" are not characteristic of simple, advanced dementia. Idiots certainly represent the most pronounced lack of proper brain nourishment, both before and after birth, but no one associates "psychical distress and a sense of woe and uneasiness" with this condition. Psychical distress may come from lack of

nourishment, but it is from lack of nourishment to organs outside the cranium. The brain cannot originate a feeling of psychical distress, nor of woe and uneasiness, no matter how adequate or inadequate its nourishment may be; it can only translate sensations into feelings, and, as it has no sensory fibers of its own, it can have no sensations of its own, and, consequently, no feelings which arise from, or originate in and of itself.

The brain has sufficient to answer for in the purely intellectual forms of mental unsoundness, that is, idiocy, imbecility, dementia, and general paralysis; and the emotional mental condition known as melancholia must be charged up to visceral conditions—not to the brain. Melancholia is due to, and is the outgrowth of, organic fear, and organic fear has its origin outside the cranium, for it was in existence long centuries before the cranium was formed.

The importance of the visceral organs, in any consideration of melancholia, cannot be overestimated—in fact, these bodily organs constitute the *Ego* itself. Ribot, *Diseases of Memory,* says: "It would seem, according to this view, that the identity of the *Ego* depended entirely upon the memory. But such a conception is only partial. Beneath the unstable compound phenomenon in all its protean phases of growth, degeneration, and reproduction, there is a something that remains; and this something is the undefined consciousness, *the product of all the vital processes,* constituting bodily perception, and which is expressed in one word—the *cœnæsthesias.* All observers are agreed that the early development of mental disease is indicated, not by intellectual disorder, but by changes in *character—changes which are only the psychical expression of the cœnæsthesias.*" That is, character is the product and outgrowth of the body, not of the mind. It is the result of vital processes and not of mental operations. He goes further: "So an organic lesion, often ignored, may transform the cœnæsthesis, substituting for the normal sensation of existence a condition of melancholy, mental distress, and anxiety, of which the patient is unable to discern the cause. This bodily condition, which is without the sphere of consciousness, because of its perpetuity, *is the true basis of personality*—ever present, ever-acting, without repose or respite, it knows neither sleep nor exhaustion, lasting as long as life itself, of which, indeed, it is only an expression."

How can melancholia, which is unquestionably an emotional condition, have its origin in the brain? There is no source of emotion there. Maudsley says: "So long as man has organic viscera he will have emotion enough, whatever his beliefs or disbeliefs may be." And it is true that the emotions and the intellect have little in common. I quote again from Maudsley: "In truth these organic efforts of the physiological consensus of organs *determine at bottom the play of the affective nature;* its tone is the harmonic or discordant outcome of their complex interactions; *the strength of the force which we develop as will and the emotional color in which we see life have their foundation in them.*" Again, "Injury to the head and gross disease of the brain tend to cause intellectual rather than emotional disorder, *while abdominal disease favors the occurrence of emotional depression;* the organic conditions of the intellect being, as Müller remarked, mainly in the brain itself, and the elements which maintain the emotions or strivings with self, in all parts of the organism. It is clear as day that temporary bodily conditions, however they may have been brought about, will play their part; and it may well be that future researches will discover the causes of the characteristic features of some varieties of mental derangement in the diathetic states and the actual bodily disorders which are associated with them. Without any change whatsoever having taken place in his external relations, the presence of bile in his blood shall drive a person to regard his surroundings and his future in the gloomiest light possible; carry this morbid state of nervous element to a further stage of depression and make it last, there ensues the genuine melancholia of insanity. There is the most perfect harmony, the most intimate connection or sympathy, between the different organs of the body as the expression of its organic life, a unity of the organism beneath consciousness, and the brain is quite aware that the body has a liver or a stomach and feels the effects of disorder in any one of the organs, without declaring in consciousness the cause of what it feels."

Melancholia must be regarded as a psychical expression of organic fear; a mental state due to visceral conditions. It has long been conceded that melancholia was the most curable form of insanity; in fact, it has been almost the *only* curable form of insanity, but the reason why has only recently begun to dawn

upon us. In the medical treatment of insanity we have regarded all forms of mental disorder as due to disease of the brain, but all our treatment has been directed elsewhere. We have known, and acknowledged covertly, that if it was true that insanity was due in every instance to disease of the brain, all treatment would be useless. Consequently, the course of treatment adopted was directed to the correction of bodily disorders. Attention was given to the stomach, the liver, the heart, the kidney, the blood, the lung, the skin, the bowels, and general systemic conditions. There is no special treatment for insanity, that is, there is no medicine for the mind, and little for the brain, because in those forms of insanity due to disease of the brain the very nature of the latter condition precludes recovery from any method of treatment.

It was noticed, however, that by virtue of the treatment employed in hospitals for insane a certain number recovered, many more improved, only to relapse, and in a large number there was no improvement except of the most temporary kind. Year after year passed by with the same methods of treatment employed and followed by practically the same results. After a time it was thought worth while to investigate the matter a little and it was discovered that practically all the cases of actual recovery were those of pure and uncomplicated melancholia, while the incurable were made up of imbeciles, epileptics, general paralytics, paranoiacs, and dements—especially dements.

This opened up a field for study. If all forms of insanity were due to disease of the brain, and the same method of treatment was employed in each case, why should all the melancholiacs recover and all the rest refuse to do so? It was evident that some feature of the matter had been overlooked, and the question arose: Is it possible that all forms of insanity are *not* due to disease of the brain? The results of the investigation and study carried on in response to the above query are embodied in this and a former paper, "Is Delusional Insanity Due to Disease of the Brain?"

Melancholia and dementia do not differ in their curability because dementia is due to a disease of the brain that is *not* curable and melancholia is due to a disease of the brain that *is* curable. No curable disease of the brain ever produced insanity. But, if

such a condition *did* exist, curability and incurability is not the only difference between dementia and melancholia. Dementia is a mental condition implicating the intellect, while melancholia is a mental condition involving the emotions. Is it not possible that due consideration of this proposition may be of some service in the solution of the problem? Drugs, whatever their character, can have no direct effect upon mental states. There is no medicine for the mind *per se*. If any effect upon mental conditions is to be obtained by medical treatment it must be indirectly. It must be applied to the source of the disorder. It must be directed to the organ or organs from whence the mental state emanates. Treatment for melancholia and for dementia must be equally effective if the two conditions flow from the same source. Treatment for disordered intellect and for disordered emotions must find a similar response if both conditions draw their sustenance from the same organ.

Then why do melancholiacs recover, while imbeciles and dements do not? Melancholia is a true emotional disorder; dementia is a true intellectual disorder. If the method of treatment employed relieves the emotional disorder but does not relieve the intellectual disorder, is it not possible that the treatment used reaches the seat of the disorder in melancholia more effectually than it does in dementia? May it not be true that treatment directed toward the bowels, or stomach, or liver, or heart, or kidney, or skin, does not produce any important or lasting impression upon a diseased brain, but may be quite efficacious in the relief of visceral disorders themselves? It is here, I believe, that we will find a solution of the problem, namely: That the intellect and the organic emotions do not have a common origin. That, while emotions are recognized in consciousness, and thus become associated in thought with the mind, and finally with the brain, they have their origin in visceral conditions. If thought and feeling both originated in the brain, then disease of the brain must produce both disorder of intellect and disorder of the emotions simultaneously, but, quite to the contrary, we have disorders of intellect, as in imbecility or dementia, without disorder of the emotions, and disorder of emotion, as in melancholia, without disorder of intellect. Imbeciles and dements can hate, and desire, and fear, even when the mind is so impaired as to be un-

able to give any intellectual expression to the emotions felt; and melancholiacs, while, apparently, so completely absorbed in their morbid feelings as to be indifferent and unconcerned regarding all external objects, are quite wide awake to their surroundings as they will tell you after the attack has passed away. In pure melancholia the intellect is in no way involved, except in the furtherance of the morbid design, and when, during an attack of melancholia, any intellectual involvement is observed, it is safe to conclude that the patient has both melancholia *and* dementia.

If idiocy, imbecility, and dementia are due to disorders of intellect; and melancholia is due to disorder of emotion; then we must logically conclude that dementia and kindred mental conditions have their origin in functional or organic changes in the brain, while melancholia originates in functional or organic diseases of the viscera, for emotion, the organic emotion of fear, is the underlying principle in melancholia, and in whatever part of the bodily structure organic fear has its birth, *there* will be found the seed-bed of melancholia. Here is the secret of success in the treatment of melancholia and it explains the mystery over which so many of us have so long pondered, and the only source of wonder remaining is, that while we theoretically held to the fact that all abnormal mental conditions were due to disease of the brain, a position from which, until recently, we would withdraw under no consideration, we were led miraculously, or, perhaps, instinctively, to direct our treatment to the real seat of the disorder, and that, too, in the one especially curable form of insanity.

In the consideration of insanity we must now recognize two forms of disorder, namely: Intellectual, having its origin in disease of the brain; and emotional, having its origin in diseases of the viscera. True, all injuries and diseases of the brain do not lead to intellectual disorder, nor do all diseases and injuries of the viscera lead to melancholia, but, whatever the special cause from which they spring, intellectual disorders *must* be referred to the brain and emotional derangements to the viscera.

It may be well to add in this connection, what will be readily observed, however, that, while there are intellectual disorders and emotional disorders, and while a patient may have either one or the other in a pure and uncomplicated form, yet there is, at the same time, nothing to prevent or disqualify the patient from

having both an intellectual and an emotional disorder at the same moment, without them bearing any intimate relation to each other, and without either being regarded as a symptom of the other. Bearing in mind the source of origin of each, there is little difficulty in understanding why they can both exist independently, or both exist in the same individual at the same time, without implicating each other, or of either being misinterpreted as bearing the relation of cause or effect to the other. A dement may have melancholia, or an imbecile may have melancholia, just as a man who is neither a dement nor an imbecile may have the same emotional disorder, or just as anyone else, sane or otherwise, demented or otherwise, who possesses viscera, may have melancholia. It is simply a question of visceral conditions and not of intellectual order or disorder.

Probably 70 per cent of all patients admitted to hospitals for insane are subjects of some intellectual disorder, either idiocy, imbecility, or dementia in some of its forms. All incurable. The remainder are divided between toxic insanity, manic-depressive insanity, and melancholia, with prognosis good in nearly every instance. The reason that many cases of melancholia prove to be incurable is because we fail to discover in these patients another condition than melancholia hovering in the background. I have said that there is nothing to prevent a dement from having melancholia, and if this dement is admitted to the hospital during this attack of emotional disturbance, as they frequently are, the latter condition quite naturally occupies the foreground, and the patient goes on record as a case of melancholia. In a week, or a month, or in six months, the patient recovers from the emotional disorder and then, the truth not yet having been discovered, the case is branded *secondary dementia,* and, not only this, it is ever afterward referred to as secondary dementia *following melancholia.* It may not be out of place to remark here that in all probability dementia is in every instance primary in its origin, so far as its relation to any other mental condition is concerned, and I am slow to believe that any case of melancholia ever had secondary dementia as a sequel. If dementia becomes observable upon the disappearance of melancholia it may be safely taken for granted that the dementia has been present all the time, or that, if it *has* developed in the mean-

time, it has done so independently of the melancholia. If dementia is secondary to anything it is to the brain disease or malnutrition which gave it birth, for it bears no such relation to any emotional disorder which may precede or accompany it. This may seem to be a radical view of the matter but close observation will verify, I believe, the position taken.

In conclusion I can only reiterate what has been already laid down, for if organic fear has its origin in visceral sensations, and if melancholia is a mental condition arising from a state of abnormal organic fear, then melancholia must of a necessity have its origin in abnormal visceral conditions.

A PRELIMINARY REPORT OF THE GYNECOLOGICAL SURGERY IN THE MANHATTAN STATE HOSPITAL WEST.*

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Modern psychiatric science, my alienist friends tell me, has undergone many changes within a comparatively short period of years. Aside from new classifications and advanced modern methods of treatment applicable to all, the necessity of individualizing—of treating each patient according to his or her especial needs—is becoming strongly impressed upon those responsible for the welfare of large aggregations of insane people. The value of the study of the individual and of the rendering of such physical assistance as may be needed with each patient is shown in the higher percentage of mental recoveries in the various institutions, and in the more contented and useful community of each.

This is exemplified strongly in the present method of treating the tuberculous insane by isolation, protecting thereby the remainder, and in the tent life and the properly constructed, airy wards for the direct treatment of the tuberculous unfortunates themselves. What an advance over the old custom in which nothing of note was done for the protection of the rest of the patients or toward decreasing the mortality of those already infected.

This same spirit of advance can be noted along all other lines, and the insane patient of to-day is treated as one who, though by the laws is confined with others of like disease, is however, subject to physical diseases and abnormalities which are now being sought out and remedied wherever they interfere with the general health of the individual. If from the improved physical state as a result

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of this line of procedure, the mental status of the individual is benefited, the result is doubly gratifying.

To be in a position to treat such pathological conditions in a proper surgical manner, Dr. Emmet C. Dent, as Superintendent of the Manhattan State Hospital West, in 1902, requested that I should take charge of the gynecological surgery of that institution and add to the equipment already on hand such necessaries as should place the facilities for modern surgery on a plane equal to that of other general hospitals. Through the far-sighted liberality of the State Board of Commissioners and the hearty endorsement of Dr. Dent this has been done, and this hospital is to-day equipped for surgery of the most advanced character.

Before the report of the gynecological surgery done in this institution is considered, it will be of interest to review what is being done elsewhere, and to note the frequency of the existence of pathological pelvic and abdominal conditions among insane women.

Ripping states that in the asylum under his charge in Germany thirty-three per cent of diseased pelvic organs were found in one hundred consecutive autopsies.

Hergt speaks of almost sixty-six per cent of diseases of the sexual organs of women being found in the autopsies for two years in the Heidelberg Institute.

Isabella Davenport, of the Illinois Eastern Hospital for Insane, states that during 1898 to 1900, 431 female patients were admitted; of this number 387 were examined gynecologically and 361 pathological pelvic conditions were found. Danillo reports 69 per cent out of 200 patients examined, Rohé reports 74 per cent, Manton reports 81 per cent out of 100 patients examined. Hobbs reports 93 per cent. Piqué, surgeon to the Alien Hospitals of the Department of the Seine, reports 89 per cent. Anna Hutchinson, of the Manhattan State Hospital West, where my operations on the insane are being done, reports that during the year ending October, 1904, 700 women among the admissions of that year were examined by her; 543 or seventy-seven per cent had pathological pelvic or abdominal conditions.

This large percentage of physical abnormalities existing in the sexual organs of the women inmates of the insane asylums throughout the country cannot be said to indicate that 75 to 80 per cent of such patients have given birth to children, and that these departures from the normal state are the result of parturition. As an evidence that this is not true, during the last sixteen years there have been admitted to the Manhattan State Hospital West, almost thirteen thousand women of whom forty per cent were single and sixty per cent married. Many abnormalities are, however, the result of child-bearing, and cause, by their neglect in many instances, suffering and a train of nervous disturbances undermining the general health of the patient.

For the better understanding of the physical necessity of relieving the pathological pelvic and abdominal disturbances in women, let me cite in brief a few prominent symptoms and conditions following in the train of each class.

Fibroid Tumors of the Uterus.—At times contant pain; hemorrhages; malignant degeneration; disease of the kidneys by pressure on ureters; sloughing.

Ovarian Tumors.—Constant pain; malignant changes.

Purulent Diseases of Tubes and Ovaries.—Constant marked pain; incapacity for physical effort; invalidism; death.

Tears of the Cervix and Perineum (severe) and Displacements.—Well-marked nervous disturbance, irritability, hysteria, backache on slight exertion.

Endometritis.—Irritability; pain.

It will be seen that all of the above conditions give rise to symptoms of sufficient gravity to cause women in the ordinary walks of life to seek assistance and to be willing to undergo surgical operations for their relief. The same relief is now recognized as the right of patients confined in insane asylums, and as a result they are being made, when it is given, happier and more contented members of the community in which their unfortunate mental state has placed them. Of such importance is

the rendering of physical assistance to insane patients esteemed in France, that a large, well-equipped surgical pavilion has been for some years erected in connection with the department of the Seine. To this pavilion all patients needing surgical treatment are sent from the four asylums, St. Ann, Vaucluse, Villejuif and Ville Evrard.

It is hardly necessary to speak in detail to the members of this Association of the operations of Manton in the Eastern Michigan Asylum, or of Hobbs in the London, Ontario, Asylum, or of the late Dr. Rohé in the Second Hospital for the Insane of Maryland. The work of each is a matter of record and one familiar to all—nor is it necessary to remind the Association of the unrelenting stand taken by Dr. Russell of the Hamilton Asylum of Canada in opposition to the views advanced by Rohé and by Hobbs.

The operations of Rohé were done with the sole view of influencing the mental state of the patients. They were thirty-four in number. An ablation of the tubo-ovarian adnexa was done in thirty-two instances. It would seem that a diseased state of the tubes and ovaries was not a prerequisite for their removal among the cases operated on. The indications for operation with him were hallucinations referable to the pelvic organs, and which were accentuated at the menstrual epoch. He reported eleven mental cures and nine mental ameliorations. The views of Rohé were unreservedly condemned by conservative alienists and surgeons.

It is only necessary to quote an extract from a paper of Dr. Alexander Skene, read before your association in 1902, to indicate the opinion of all gynecologists upon this subject. He says, "The slow destructive action of the ovaries prepares the organization as it were, for the menopause and at the same time occupies the nervous system with disturbances, which come from diseased ovaries, and hence their removal is a relief to the nervous system, whereas the removal of the normal ovaries is, figuratively speaking, an outrage to the nervous system which often overwhelms it."

Raimann in the *Chrobaks Festschrift* of 1903, presents an extensive article, "On the Causal Relations between Female Affections and Mental Disturbances." He reports in full eleven cases

in which the hallucinations were referable to the pelvic organs and accentuated during menstruation. In all the tubo-ovarian adnexa were removed though in some instances they were not diseased. There were no mental cures; in three only was there any diminution of the previous hallucinations and in these the mental improvement was only slight.

The results reported by Raimann are in accord with what would have been anticipated from a gynecological standpoint. It is contrary to all surgical experience to expect that the removal of the normal ovaries and tubes in a woman during her active sexual life can result other than disastrously to the nervous system even in women having no mental alienation—how much more so with those who have a weakened nervous potentiality as Tomlinson admirably expresses it, or in those already insane.

In some instances the mental recovery of patients is hastened by the physical relief experienced, when an operation that is needed has been performed. Of this there is no question since there are well authenticated reports of such instances from many hospitals. The operation has not, other than in exceptional instances, been the means *per se* of the patients' mental recovery. It has, however, restored the patients' physical health, by the restoration of which the patient is able to profit to a full extent by the moral and therapeutic treatment given her in the institutions.

The gynecological surgery at the Manhattan State Hospital West has been done with a view of improving the physical condition of the patient only. In every instance the relief of the local condition alone and the ordinary symptoms resulting have been considered; no cognizance has been taken of the mental state excepting as it precluded for the time any form of surgical operation. In other words, no operation has been done with a direct view of its possibly affecting favorably the mental disease for which the patient has been admitted to the hospital.

While the relief of the physical suffering alone has been the object of these operations, the subsequent progress of the mental disease of these patients has been carefully noted with a desire to determine, if possible, whether the improvement of the general

health through the operation has exercised a beneficial effect on the favorable progress of their mental state.

Reliable conclusions upon this question are extremely difficult to draw, since so many other factors enter into the mental improvement of patients.

Deductions to be decisive should be drawn from the result of systematic surgical work, extending over many years. In tabulating my own operations I have arranged them under three heads in order to better to analyze them. As stated, no operations have been undertaken with the direct object of influencing the mental status. The physical status alone has been considered. As a result of adopting this course fully three-fourths of the patients operated on were sufferers from forms of mental disease recognized as unfavorable and for whom little can be expected in the way of ameliorating their mental state.

The unfortunates of this class had, however, as much claim for physical relief as those with more amenable forms of mental disease.

The three classes into which I have divided these operations are: Major Operations which include all abdominal sections. Operations for displaced uteri which include also, when present, a repair of cervical and perineal injuries; finally, Minor Operations, including a restoration of injuries of the vagina and cervix and uterine endometrium.

These divisions have been made, since it has been claimed by some, notably Rohé and Hobbs in the report of the results of their operations, that the greatest mental improvement has been noted in those operations involving the removal of diseased adnexa. Some authors also express the opinion that malpositions of the uterus are of considerable importance in the mental disturbance of women, while others believe that such conditions have very little bearing on their mental state.

The daily population of the female division of the Manhattan State Hospital is about 2500 patients. The yearly admission of new patients is between 900 and 1000. As revealed by the pelvic examination of these patients admitted, fully seventy-five per cent

have some form of pelvic trouble. Operations have been done only in instances where the patient's life was imperilled, or to remove tumors, or in instances where the condition was such as to give rise to constant pain and ill health, or to a train of nervous symptoms.

Two hundred and forty-two patients have undergone some form of gynecological operation which is a little less than 5 per cent of the total number of women in the hospital during the period covering the operations. Of those operated on there have been sixty-two abdominal sections, fifty-one operations for displaced uteri and one hundred and twenty-nine minor plastic operations.

As a result of all the operations done (242) one hundred and twelve patients have been physically benefited in a marked degree, one hundred and seven have been noticeably improved, though not to such an extent as in the previous number.

Of the remaining patients five died, of which number two deaths were attributable to the operation and three to natural causes.

When we bear in mind that in no instance was the mental condition of the patient made worse, either directly or indirectly as a result of the operations, the importance of rendering such surgical assistance as is needed to these unfortunate members of our society becomes evident. In some instances lives have been saved; in others, patients who had been bed-ridden or semi-invalids for a long period of time, were restored to excellent physical health. With the exception of a very small percentage all were made more useful and contented members of the community in which they live.

The statement made by some writers that operative measures for remedying diseased conditions at times aggravate the insanity of the patient is not in accord with my experience. No instance of such aggravation exists among patients I have operated on. The same statement is made by Manton concerning his own operations in the Eastern Michigan Asylum covering a period of twenty years, and by Picqué who has been operating for twelve years among the insane of Paris.

The collection of one hundred and nine operations brought together by the Italian alienists, Angelucci and Pierraccini, in which they state that twenty-three patients were made mentally worse I cannot analyse, having been unable to obtain the original article. If, however, these operations deal with castration for the cure of insanity, and I infer that this is the case, since the article seems to have been inspired by the widespread attention brought to this subject through the publications of Rohé and of Hobbs, it can readily be understood that the removal of comparatively normal ovaries could accentuate the psychoses of these patients.

The rare occurrence of true psychoses following gynecological operations upon women not previously insane, has been brought out by Rohé in the *New York Medical Journal* of October, 1893. Here he states that as a result of communicating with all the asylums of the United States and Canada he found that in the course of the ten years prior to 1893 only twenty-five patients had been registered in all of these asylums, as having become insane after gynecological operations.

Kelly in his "Operative Gynecology" states that in an experience of something over two thousand abdominal sections he has had eight patients who have become insane after operations. Piqué who has devoted much attention to this phase of insanity, draws a line between intoxication psychoses as the result of sepsis, the ænesthetic, alcohol, or iodoform so largely used some years ago, and true psychoses following operations.

He gives as his experience that the latter class includes only old people in whom the senile change in the brain is taking place, or those mentally weak in whom there exists an intense fear and dread of operations.

This opinion, as expressed by Picqué, appears to be that of most alienists of the present day. The only cases of insanity following operations coming under my care have been those of septic origin in which a relief of the sepsis has brought about a slow but steady improvement in the mental state.

The late Dr. Bucke, Superintendent of the London, Ontaria,

Asylum, presented in a paper before your Association at its meeting in 1900 a full report, up to the time of his writing, of the gynecological operations of Hobbs in that institution. This report included two hundred patients.

The results were from a mental standpoint: 83 women recovered, 45 women improved, 68 women unimproved.

Of sixty-three general surgical operations he reports only one patient recovering mentally. In analyzing the different characters of gynecological operations and their effects, he finds that the largest number of mental recoveries have been among those on whom operations were done for diseased ovaries and tubes; next in order he ascribes importance to relief of diseases of the uterus, and last, to relief of injuries to the pelvic floor.

Piqué in his "Surgery among Aliens" cites eighteen selected cases of his own, of which he reports ten mental recoveries and four mental improvements. In examining his report he does not show any larger number of improvements as resulting from removal of diseased uterine adnexa, in fact the greater number follow a cure of an endometritis with an eroded and lacerated cervix.

In studying the histories of the patients upon whom I have operated I find that of the two hundred and forty-two patients one hundred and thirty-eight still remain in the institution and one hundred and four have been discharged. Of those discharged forty-three are recorded as recovered mentally. Twenty patients of the forty-three discharged as cured have had their mental recovery materially hastened as a result of the physical improvement arising from the operations done upon them.

While in the majority of these patients there had been some mental improvement before the operation was done, yet in all of the twenty of which we speak the psychic improvement following the operation was marked, as also was the steady progress toward recovery.

I would not have it inferred that this change for the better was an immediate result of the operation. Such could not be expected, nor did it exist. The marked improvement commenced

generally at the time that the patient began to experience her physical improvement and the relief from her former pelvic or abdominal discomfort.

In this connection it is of value to note the moral effect of the operation. In not a few instances during my operations in this hospital patients in need of surgical work would be transferred from other wards to the hospital ward in such an excited state that it would be a question whether the operation should be done on account of the possibility of the patient injuring herself while recovering from the operation. If the physical condition was of sufficient gravity to warrant us in disregarding the mentally excited state, the operation would be done and sufficient nurses supplied to protect the patient. In not a few of such conditions it was surprising to find that additional nurses were not needed, since the patient had at once become docile, free from all excitement, and showed a willingness to do everything she was told. None of these patients, however, were among those discharged as recovered, hence it cannot be stated that the mental benefit accruing was a moral one.

The diagnosis of the form of the mental alienation of the twenty patients whose recovery appeared in a great measure to be due to an improved physical condition as a result of the surgical operation is as follows: Melancholia, chronic in 5 patients; melancholia, acute in 7 patients; mania, acute in 4 patients; dementia, primary in 4 patients.

It is seen that the beneficial effect of a surgical relief eventually resulting in a mental recovery is confined in my own experience to those patients whose mental disturbance might be largely influenced by the presence of pathological conditions.

Through the earlier reports of operations that were done for the relief of insanity, the opinion among asylum physicians became prevalent that such efforts involved the removal of the tubo-ovarian adnexa of patients, and that a disease of these organs was not a necessary prerequisite. As a result a strong opposition was created among the physicians in charge of these institutions against all gynecological work, and it has only been within a

comparatively few years that this opposition has given way under the influence of a correction of this inference.

Among my own operations it has been my effort to preserve one or both ovaries if consistent with the physical welfare of the patient. This course has been followed, in accordance with the now well established fact in pelvic surgery, that leaving even a part of an ovary, provided that part is in a healthy state, so modifies the necessary phenomena of the menopause as to relieve the patient of many of the more acute and depressing symptoms attendant thereon.

From among the sixty-two abdominal sections performed for various pelvic and abdominal disorders seven had their mental recovery hastened through the beneficial physical effect of the operation. The character of these operations is as follows:

2 myomectomies with suspension of the uterus, mental diagnosis, melancholia chronic and mania acute.

2 suspensions of the uterus in one of which the right ovary and tube were removed. Mental diagnosis, melancholia acute in both instances.

2 supravaginal hysterectomies for fibromyomatous tumors of the uterus, both ovaries and tubes were removed in each instance. Mental diagnosis, melancholia chronic and dementia primary.

1 Bassini's operation for inguinal hernia. Mental diagnosis, melancholia chronic.

It will be seen that the beneficial mental effect is not confined to abdominal operations of any especial character. In five of these cases the ovaries and tubes were not diseased except in one instance, necessitating the removal of one ovary. In two it was necessary on account of disease to remove ovaries and tubes together with the tumor.

These results are not in accord with those obtained by Hobbs of the London, Ontario, Hospital, who states that the best results obtained in that institution were in operations on the uterine appendages. Especially is this difference perceptible when in examining the total number of abdominal sections it is seen that

in twenty-three instances both tubo-ovarian adnexa were removed for disease, in only two of these were there mental recoveries.

Not being an alienist, I hesitate to venture an opinion on this subject. I am, however, in full accord with the opinions of Tomlinson, that the mental benefit accruing is not dependent on the character of operation done, but more upon the nervous potentiality of the individual patient and her ability to respond to the stimulus of increased physical health.

It matters not by what character of operation or by what other means the physical well-being of the patient is restored.

Of the one hundred and twenty-nine plastic operations, ten of those discharged as cured began to give evidence of rapid mental improvement after recovery from the operations. While there was some improvement before the operations the rapid improvement was, however, subsequent.

The only legitimate conclusion to be drawn is that the improvement was due to a relief from the previous ever acting, depressing, nervous disturbances resulting from these injuries. The characters of these operations were the repair of a torn perineum, together with a diseased cervix, and the cure of an endometritis.

The forms of mental disease were: Melancholia, acute in 4 patients; melancholia chronic, in 2 patients; mania acute, in 2 patients; dementia primary, in 2 patients.

Of the fifty-one operations for displaced uteri associated with a repair of the cervix and perineum where indicated, three patients had their mental recovery hastened by the correction of the pelvic abnormalities.

Upon two of these patients a curettage and a shortening of the round ligaments by Alexander's operation was done, upon a third the peritoneal cavity was entered through an anterior vaginal incision and through this opening the round ligaments were shortened; the torn perineum was also repaired.

The mental condition of these three patients was mania acute, melancholia chronic, and dementia primary.

The length of time in which I have been conducting these operations is too short to draw conclusions of very great value.

Such systematic work must extend over a number of years before positive lessons can be learned. Operations done in most of the hospitals other than by Manton in the Eastern Michigan Hospital and Picqué in the splendid surgical pavilion of the asylums of the Department of the Seine, and in the Manhattan State Hospital West, are of a character too transitory to permit of drawing conclusions which we can feel are not subject to future modifications.

There are, however, some facts which I regard as well established.

1st. If the operation when needed has been properly done and the patient is not mutilated by an uncalled-for castration the mental condition is never aggravated by such a procedure. This, as stated, has been the experience of Manton who has been operating for over twenty years; also that of Picqué whose operations have extended over a period of twelve years, and of myself in the entire range of my surgical work among the insane.

2d. There exists among the patients confined in the various insane asylums many pathological conditions which can and do give rise to symptoms detrimental to the patients' physical well-being and mental recovery. Those, with such conditions, have a right to be given relief irrespective of their mental state.

3d. Under the stimulus of the improved somatic state resulting from surgical relief some of the patients show greater mental advancement under the moral and therapeutic care than were shown before such relief was given. At times this improved mental state continues to one of recovery.

The primary object of surgical operations upon the insane should be to improve the physical status of the patient with one end only in view, of relieving them of physical suffering and nervous disturbances.

If as a result of this relief they are mentally improved, it is a sequel not primarily sought, yet welcomed.

MAJOR OPERATIONS

Admission	Name	Age	Social condition	General health before operation	Mental diagnosis	Duration of mental disease previous to entering hospital	Pelvic condition	Date of operation	Operation
6-28-02	9540 B. H.	32	M.	Fair	Mania, acute	2 wks.	Multiple fibroids of uterus	9-26-02	Supra-vaginal hysterectomy
10-14-02	9829 S. G.	44	S.	Poor	Melancholia, chronic	3 to 4 yrs.	Retroverted uterus with small fibroids	10-30-02	Curettage, myomectomy, ventral suspension
2-23-03	10141 H. L.	21	M.	"	Melancholia, acute	2 days	Double adnexal disease, retroversion, adhesions	8-4-03	Intraabdominal shortening of round ligaments; right tube, and ovary removed
2-12-03	10120 M. S.	39	M.	Fair	Dementia paralytica	....	Ovarian cyst and retroflexed uterus	5-7-03	Removal of cyst and suspension of uterus
5-29-03	9453 N. G.	30	S.	"	Melancholia, chronic	3½ yrs.	Retroversion with adhesions	8-12-02	Double salpingo-oophorectomy; suspension of uterus
8-24-01	8862 H. W.	43	M.	"	Melancholia, acute	3 to 4 wks.	Right inguinal hernia	11-30-02	Bassini's operation
10-30-02	9869 C. G.	40	S.	"	Melancholia, chronic	2 yrs.	Retroflection with fibroids	2-26-03	Myomectomy; Bissell's operation
10-12-01	8968 B. R.	54	W.	"	Dementia paralytica	4 mos.	Umbilical hernia	3-19-03	Repair of rupture
2-27-03	10152 M. F.	28	"	"	Melancholia, chronic	3 yrs.	Retroversion and ovarian cyst	4-9-03	Curettage, anterior vaginal section. Shortening round ligaments, removal of right ovarian cyst
4-16-03	10302 M. P.	23	S.	Poor	Dementia præcox	3 wks.	Cyst of left ovary	4-30-03	Abdominal section left ovarian cyst removed
4-8-03	10285 A. R.	32	M.	"	Melancholia, acute	6 mos.	Retroversion, laceration of cervix and perineum	5-9-03	Curettage, hysterorrhaphy
5-14-03	10377 D. McL.	34	S.	"	Depressive hallucinosis	3 yrs.	Acute appendicitis	5-17-03	Appendectomy and evacuation of pus
4-4-03	10283 A. L.	26	M.	"	Melancholia, acute	1 wk.	Adherent retroversion, double pyosalpinx	5-21-03	Excision cervix and perineorrhaphy; suspension uterus

MAJOR OPERATIONS

Result of operation	Physical improvement following operation	Mental improvement apparently referable to operation	Discharged	Result mental	Remaining in hospital	Remarks
Satisfactory	Rapid	None	10–15–02	Recovered	....	Patient had almost recovered before operation
"	"	Marked	3–30–03	"	....	Patient had begun to improve before operation; after operation improvement more rapid
"	"	Very marked	9–4–03	"	....	No improvement prior to operation.
"	"	None	Transferred to E. hospital	Unimproved	....	.....
Died Aug. 18	....	....	....	....	....	.....
Satisfactory	Marked	Gradual but very marked	12–26–03	Recovered	....	Hallucinations 15 mos. prior to operation. No hallucinations subsequent to 4 mos. after operations.
Not satisfactory	Slight	None	Discharged 5–22–03	Unimproved	....	.....
Satisfactory	"	"	Discharged 4–23–04	"	....	.....
"	Rapid	Slight	Discharged 8–4–03	"	....	.....
"	Slight	None	Died 4–3–04 Tuberculosis	None	....	.....
"	Marked	Slight	Discharged 7–11–03	....	....	.....
"	"	Very marked	Discharged 10–19–03	Improved	....	At time of operation patient greatly excited. Active hallucinations. All disappeared after operation. Discharged apparently cured, yet having same hallucinations
"	"	Marked	12–1–03	Improved	....	Improvement does not appear to be due to operation

MAJOR OPERATIONS

Admission	Name	Age	Social condition	General health before operation	Mental diagnosis	Duration of mental disease previous to entering hospital	Pelvic condition	Date of operation	Operation
5-21-03	10395 L. C.	35	S.	Fair	Mania, acute	4 mos.	Adherent retroversion, small fibroids	7-21-03	Myomectomy; suspension uterus
3-11-02	10205 M. C. N.	30	S.	"	Melancholia, acute	6 wks.	Retroversion	7-21-03	Hysterorrhaphy
6-23-03	10475 M. McG.	45	S.	"	Paranoia	6 mos.	Right ovarian cyst	7-28-03	Salpingo-oophorectomy
							Intestinal obstruction	9-23-03	Intestinal resection
11-9-01	9024 M.G.	35	S.	Poor	Melancholia, chronic	10 yrs.	Multiple fibromyoma	9-9-02	Supra-vaginal hysterectomy
4-1-03	10268 M. B.	31	S.	Fair	Paranoia	10 mos.	Impacted fibromyoma, umbilical hernia	6-11-03	Supra-vaginal hysterectomy, herniotomy
8-17-03	10639 L. H.	32	M.	"	Epileptic psychosis	2 wks.	Double hydrosalpinx retroversion (adherent). Lacerated cervix and perineum	11-12-03	Anterior vaginal section, shortening round ligaments and salpingectomy
1-6-03	11094 M. J.	28	S.	"	Dementia primary	2 yrs.	Adherent retroversion dysmenorrhœa, oophoritis	11-14-03	Hysterorrhaphy and oophorectomy (right)
7-4-03	10497 F. D.	28	M.	"	Dementia præcox	18 wks.	Salpingo-oophoritis, retroversion, lacerated cervix and perineum	12-10-03	Salpingo-oophorectomy, hysterorrhaphy and perineorrhaphy
1-6-03	10021 L. P.	28	M.	"	Mania, acute	....	Fibro-myoma	12-31-03	Hystero-salpingo-oophorectomy (left)
6-5-03	10428 M. S.	45	M.	Poor	Melancholia, chronic	4 yrs.	Multiple-fibromyoma, anteflexion, laceration of cervix and perineum	1-14-04	Anterior vaginal section — myomectomy — Goffe's operation — excision of cervix and perineorrhaphy
12-23-02	9993 C. S.	21	S.	"	Dementia præcox	1 mo.	Pelvic abscess	1-28-04	Complete hysterectomy
1-23-04	11140 J. B.	36	W.	Fair	Melancholia, acute	6 wks.	Adherent retroversion	4-14-04	Hysterorrhaphy
2-1-04	11170 H. F.	22	M.	"	Dementia præcox	5 days	Retroversion	4-28-04	Cœliotomy and repair of puncture of uterus
4-22-04	11384 V. A.	21	M.	Poor	Mania, acute (delirious)	15 days	Puerperal septicæmia (Pelvic abscess)	4-28-04	Complete hysterectomy

MAJOR OPERATIONS

Result of operation	Physical improvement following operation	Mental improvement apparently referable to operation	Discharged	Result mental	Remaining in hospital	Remarks
Satisfactory	Marked	Marked	11–17–03	Recovered	....	Slight mental improvement before operation
"	"	"	4–9–04	"	....	Slight mental improvement before operation
Died	....	....	....	Died Sept. 23–03. Shock	....	Slight mental improvement before operation; recovered from first operation, 2 mos. later intestinal obstruction developed
Satisfactory	Marked	Marked	10–10–04	Recovered	....	Slight mental improvement before operation
"	"	None	8–23–04	Improved	....	Slight mental improvement before operation
"	Slight	"	1–5–04	"	....	Improvement does not appear to be due to operation
"	"	Slight	7–29–04	"	....	Improvement begun before operation
"	"	"	2–8–04	"	....	Some improvement before operation
"	Marked	"	4–19–04	"	....	Some improvement following operation. Patient re-admitted Oct. 6–04
"	"	"	4–15–04	"	....	Improvement before operation
"	"	"	5–16–04	"	....	Marked improvement after operation; patient re-admitted May, 04
"	"	"	6–10–04	Recovered	....	Some improvement before operation
"	"	"	7–1–04	Improved	....	Some improvement before operation
Died	None	None	....	Died 4–30–04	....	Died 2 days after operation, of exhaustion from puerperal sepsis

MAJOR OPERATIONS

Admission	Name	Age	Social condition	General health before operation	Mental diagnosis	Duration of mental disease previous to entering hospital	Pelvic condition	Date of operation	Operation
6-7-00	7279 E. C.	34	M.	Poor	Mania, acute	6 days	Tuberculous peritonitis	2-11-04	Exploratory coeliotomy
3-26-04	11313 F. H.	38	M.	Fair	Dementia præcox	2 mos.	Multiple fibromyoma	5-5-04	Supra-vaginal hysterectomy
5-5-04	11425 F. H.	32	S.	"	Paranoia	10 days	Adherent retroversion salpingo-oophoritis	6-9-04	Hysterorrhaphy—left salpingo-oophorectomy—right salpingectomy
11-17-96	48361 L. S.	32	S.	Poor	Mania, chronic	....	Fibro-myomata uteri	8-19-02	Supra-vaginal hysterectomy
11-14-98	6094 L. L.	40	S.	"	Melancholia, chronic	3 yrs.	" " "	9-3-02	Supra-vaginal hysterectomy
3-12-02	9190 C. S.	39	S.	"	Dementia terminal	5 yrs.	" " "	9-23-02	Supra-vagina hysterectomy
9-11-02	9732 L. S.	34	M.	"	Melancholia, chronic	3½ yrs.	Retroflexion, lacerated cervix and perineum	11-6-02	Hysterorrhaphy—excision cervix—perineorrhaphy, curettage
2-12-00	7028 J. N.	32	..	Fair	Melancholia, chronic	1 yr.	Right inguinal hernia	11-20-02	Herniotomy
10-20-00	8180 L. G.	48	M.	"	Melancholia, chronic	1 yr.	Umbilical hernia	12-19-02	"
8-27-97	5191 S. L.	39	M.	"	Mania, chronic	10 yrs.	Multiple fibromyomata retroversion	2-5-03	Myomectomy; hysterorrhaphy
10-3-97	5267 A. H.	36	..	Poor	Melancholia, chronic	3 yrs.	Ovarian cyst	2-12-03	Excision of ovarian cyst
2-7-03	10106 F. S.	45	M.	Fair	Melancholia, chronic	1 yr.	Fibro-myomata uteri salpingo-oophoritis	4-16-03	Supra-vaginal hysterectomy
2-27-03	10154 J. J.	39	M.	"	Paranoia	1 wk.	Fibro-myomata uteri ovarian cyst	4-23-03	Supra-vaginal hysterectomy
1-7-03	10022 E. B.	49	M.	"	"	3 yrs.	Fibro-myoma uteri impacted in pelvis	7-2-03	Supra-vaginal hysterectomy adnexa removed
4-6-97	5029 R. P.	33	M.	"	Mania, chronic	5 mos.	Fibro-myoma uteri	7-14-03	Supra-vaginal hysterectomy right ovary left
3-24-99	6382 A. V.	40	..	"	Dementia, secondary	....	Incarcerated femoral hernia, left	7-24-03	Operation—reduction
2-3-03	10493 N. H.	35	W.	"	Paranoia	1 yr.	Adherent retroversion lacerated cervix and perineum	....	Suspension uterus; left tube and ovary removed; excision cervix and repair of perineum

MAJOR OPERATIONS

Result operation	Physical improvement following operation	Mental improvement apparently referable to operation	Discharged	Result mental	Remaining in hospital	Remarks
Unsatisfactory	None	None	Died 4–4–04	None	....	Died of pulmonary and peritoneal tuberculosis 2 mos. after operation
Satisfactory	Marked	Marked	9–17–04	Recovered	....	Slight improvement before operation
"	....	....	Died 7–23–04	None	....	Died 14 days after operation of pulmonary emboli
"	Marked	None	....	...	2–1–05	No mental improvement before or after operation
"	"	"	....	....	"	No mental improvement before or after operation
"	"	"	....	....	"	No mental improvement before or after operation
"	None	"	....	....	"	Slight mental improvement before operation
"	Marked	Slight	....	....	"	Slight mental improvement before operation
"	"	None	....	....	"	Slight mental improvement before operation
"	"	"	....	....	"	Slight mental improvement before operation
"	Very marked	"	....	....	"	Slight mental improvement before operation
"	Marked	"	....	....	"	Slight mental improvement before operation
"	"	Slight	....	....	"	Mental improvement before operation
"	"	None	....	....	"	Slight improvement before operation
"	"	"	....	....	"	Unchanged
"	"	"	....	....	"	Much improved before operation
"	"	"	....	....	"	Slight improvement before operation

MAJOR OPERATIONS

Admission	Name	Age	Social condition	General health before operation	Mental diagnosis	Duration of mental disease previous to entering hospital	Pelvic condition	Date of operation	Operation	Res ope
3-15-98	53191 H. M.	24	..	Fair	Dementia terminal	6 yrs.	Multiple fibro-myoma uteri	9-10-3	Supra-vaginal hysterectomy; both adnexa removed	Satis
9-3-03	10693 K. T.	30	S.	"	Paranoia	6 mos.	Multiple fibro-myoma uteri	9-17-03	Supra-vaginal hysterectomy; ovaries not removed	
12-2-03	37116 R. M.	38	S.	"	Imbecility	Life	Retroversion, fibro-myoma—lacerated cervix and perineum	10-1-03	Supra-vaginal hysterectomy; ovaries removed	
4-13-03	10297 I. G.	23	W.	"	Paranoia	....	Ovarian cyst	10-1-03	Cyst removed through posterior vaginal incision	
4-29-03	10333 N. H.	37	W.	Poor	Dementia præcox	8 mos.	Ovarian cyst, retroversion, lacerated cervix and perineum	9-15-03	Curettage, excision cervix perineorrhaphy, abdominal section, ovarian cyst removed	
8-12-03	10620 S. G.	29	S.	Fair	Epileptic psychosis	....	Adherent retroversion	11-3-03	Removal both adnexa, suspension of uterus	
2-5-03	10099 N. F.	34	S.	"	Melancholia, acute	3 mos.	Chronic appendicitis	3-24-03	Appendectomy	
8-28-03	10668 L. S.	46	M.	"	Paranoia	6 mos.	Fibro-myoma	12-3-03	Supra-vaginal hysterectomy	
1-15-95	41121 L. L.	39	W.	Poor	Melancholia, chronic	2 days	Multiple fibroids of uterus	12-10-03	Vaginal hysterectomy	
9-5-03	10692 M. M.	25	M.	Fair	Melancholia, acute	2 mos.	Double adnexal disease	12-24-03	Removal both adnexa and hysterorrhaphy	
4-29-03	10334 M. H.	45	W.	"	Dementia præcox	4 mos.	Adherent retroversion	1-5-04	Suspension of uterus, left tube and ovary removed	
9-14-03	10709 L. P.	31	M.	"	Mania, acute	5 mos.	Fibroid uterus	1-14-04	Supra-vaginal hysterectomy with removal of ovaries	
10-18-07	51371 M. G.	43	..	"	Melancholia, chronic, alcoholic	....	Uterine fibro-myoma	2-4-04	Supra-vaginal hysterectomy with removal of ovaries	
10-21-03	10829 A. R.	23	S.	"	Dementia Præcox	3 years	Adherent retroversion	2-25-04	Appendectomy, hysterorrhaphy	
12-29-03	11063 M. H.	46	W.	"	Dementia paralytica	1 mo.	Fibro-myoma uteri	4-21-04	Myomectomy, appendectomy	
4-14-04	11366 M. Mc D.	44	S.	"	Mania depressive	....	Fibro-myoma uteri	7-11-04	Supra-vaginal hysterectomy with ovaries removed	
10-1-03	10784 J. S.	22	S.	Poor	Dementia secondary	10 yrs.	Fibro-myoma uteri	9-29-04	Myomectomy	

MAJOR OPERATIONS

Result of operation	Physical improvement following operation	Mental improvement apparently referable to operation	Discharged	Result mental	Remaining in hospital	Remarks
Satisfactory	Marked	None	....	....	2-1-1905	Unchanged
"	"	"	12-20-04	Improved	....	.....
"	"	"	....	....	2-1-1905	Unchanged
"	"	"	....	....	"	Slight improvement before operation
"	Has Tuberculosis	"	Died 11-6-04	Tuberculosis	"	.....
"	Marked	"	....	....	"	Unchanged
"	Slight	"	....	....	"	Visceral delusions still exist unchanged
"	"	Slight	12-31-04	Improved	....	.....
"	"	None	....	....	2-1-1905	Unchanged
"	"	"	....	....	"	"
"	"	"	....	....	"	"
"	Marked	Slight	....	....	"	Slight improvement due to operation
"	Slight	"	....	....	"	Unchanged
"	"	"	....	....	"	"
"	Marked	"	....	....	"	"
"	Slight	"	Transferred to L. I. State Hospital	Improved	"	.....
"	"	"	....	....	"	Unchanged

OPERATIONS FOR DISPLACED UTERI

Admission	Name	Age	Social condition	General health before operation	Mental diagnosis	Duration of mental disease prior to entering hospital	Pelvic condition	Date of operation	Operation
6-2-02	9463 M. G.	27	M.	Fair	Melancholia, chronic	4 yrs.	Movable retroversion; lacerated cervix and perineum	7-29-02	Alexander's operation; excision cervix and perineorrhaphy
10-30-02	9868 C. S.	32	S.	Poor	Melancholia, chronic	2 yrs.	Movable retroversion; lacerated cervix	12-4-02	Alexander's operation; excision cervix and curettage
10-1-02	9785 E. P.	44	M.	Fair	Melancholia, acute	1 mo.	Movable retroversion; lacerated cervix and perineum	12-4-02	Alexander's operation; excision cervix and perineorrhaphy
11-8-02	9887 M. G.	30	M.	"	Melancholia, acute	1 mo.	Movable retroversion	12-11-02	Alexander's operation; curettage
3-25-03	10254 D. R.	25	S.	"	Dementia, primary	3 mos.	Movable retroversion	5-5-03	Alexander's operation; curettage
2-14-03	10123 E. R.	33	M.	"	Melancholia, acute	1 yr.	Movable retroversion; lacerated cervix and perineum	5-28-03	Alexander's operation; curettage, perineorrhaphy
4-23-03	10318 S. J.	24	S.	"	Mania, depressive	3 wks.	Movable retroversion; endometritis	8-25-03	Alexander's operation; curettage
5-7-03	10355 N. Q.	47	S.	Poor	Alcoholic delirium	....	Procidentia; chronic nephritis	1-7-04	LaForte's operation
3-18-03	10828 E. C.	33	W.	Fair	Mania, chronic	6 yrs.	Movable retroversion; endometritis, lacerated perineum	11-24-03	Alexander's operation; curettage, perineorrhaphy
11-7-03	10891 A. M.	36	S.	"	Melancholia, acute	11 days	Movable retroversion	1-22-04	Alexander's operation
10-10-03	10791 T. H.	26	M.	"	Mania, acute	6 wks.	Movable retroversion; lacerated cervix and perineum	1-28-04	Alexander's operation; excision cervix and perineorrhaphy
8-21-03	10648 M. D.	23	S.	"	Mania, acute	2 mos.	Movable retroversion	2-2-04	Alexander's operation; curettage
10-30-03	10896 L. M.	27	S.	Poor	Melancholia, chronic	4 mos.	Movable retroversion; dysmenorrhœa	3-31-04	Alexander's operation; curettage
12-24-03	11060 A. C.	28	M.	Fair	Dementia præcox	3 mos.	Movable retroversion; lacerated perineum	2-25-04	Alexander's operation; perineorrhaphy, curettage
3-9-04	11269 K. B.	29	S.	"	Mania, depressive	1 wk.	Movable retroversion	5-26-04	Alexander's operation
5 -12-04	11455 A. H.	39	Sep.	"	Paranoia	5 yrs.	Movable retroversion; lacerated perineum	7-26-04	Alexander's operation; shortening utero-sacral ligaments; perineorrhaphy

OPERATIONS FOR DISPLACED UTERI

Result of Operation	Physical improvement following operation	Mental improvement apparently referable to operation	Discharged	Result mental	Remaining in hospital	Remarks
Satisfactory	Marked	None	Transferred 4-03	Improved	....	.....
"	Slight	Marked 6 mos. after operation	9-14-03	Recovered	....	No mental improvement for 5 mos. after operation
"	Marked	Slight	8-21-03	Improved	....	Some improvement before operation
"	Noticeable	"	1-30-02	"	....	Slight improvement before operation.
"	Marked	Marked	9-14-03	Recovered	....	Considerable improvement before operation
"	"	Slight	7-27-03	"	....	Re-admitted March 16-04
"	"	Marked	11-20-03	"	....	Slight improvement before operation
"	None	Slight	Died 4-26-04 Nephritis	Died	....	Slight improvement after operation, chronic nephritis, which was present on admission
"	Slight	"	2-12-04	Improved	....	Some improvement before operation
"	"	"	8-8-04	Recovered	....	Some improvement before operation
"	"	"	5-9-04	"	....	Some improvement before operation
"	"	"	8-8-04	"	....	Some improvement before operation
"	Marked	"	7-6-06	Improved	....	Some improvement before operation
"	Slight	"	5-26-04	"	....	Slight improvement before operation
"	"	"	9-20-04	Recovered	....	Some improvement before operation
"	"	None	9-26-04	Improved	....	Some improvement before operation

OPERATIONS FOR DISPLACED UTERI

Admission	Name	Age	Social condition	General health before Operation	Mental diagnosis	Duration of mental disease prior to entering hospital	Pelvic condition	Date of operation	Operation
8-22-00	7865 A. C.	30	M.	Poor	Melancholia, chronic	....	Movable retroversion; lacerated cervix and perineum	7-22-02	Alexander's operation; excision cervix, perineorrhaphy
3-28-02	9449 M. S.	29	M.	Fair	Melancholia, chronic	2 yrs.	Retroflexion; lacerated cervix	9-16-02	Alexander's operation, excision of cervix
5-11-02	9567 S. A.	30	M.	"	Mania, chronic	3 yrs.	Retroflexion; lacerated cervix and perineum	10-30-02	Alexander's operation; excision of cervix, perineorrhaphy and curettage
9-11-02	9730 I. H. K.	30	W.	"	Melancholia, chronic	16 mos.	Movable retroversion; lacerated cervix and perineum	11-20-02	Alexander's operation; excision of cervix, perineorrhaphy
9-19-02	9758 J. A.	38	M.	Poor	Paranoia	2 yrs.	Movable retroversion; lacerated perineum	12-19-02	Alexander's operation; perineorrhaphy
10-21-02	9848 L. H.	38	W.	Fair	Melancholia, acute	....	Retroversion, lacerated perineum	31-4-03	Goffe's operation; perineorrhaphy
3-7-03	10198 G. R.	32	S.	Poor	Dementia, primary	4 mos.	Movable retroflexion	4-30-93	Alexander's operation
3-21-03	10247 A. T.	40	W.	Fair	Paranoia	3 yrs.	Movable retroversion, lacerated cervix and perineum	5-21-03	Alexander's operation, excision of cervix and perineorrhaphy.
3-7-03	10194 M. D.	31	S.	"	Melancholia, chronic	2 yrs.	Movable retroversion, endometritis	5-28-03	Alexander's operation, curettage
6-7-01	8686 M. D. C.	26	S.	"	Dementia terminal	6 mos.	Movable retroversion, right inguinal hernia	8-25-03	Alexander's operation, herniotomy
3-28-03	10263 L. S.	36	M.	"	Melancholia, chronic	3 yrs.	Retroflexion, lacerated cervix and perineum	6-25-03	Alexander's operation, excision of cervix and perineorrhaphy
11-17-02	9918 A. G.	29	W.	Poor	Melancholia, chronic	2 yrs.	Retroversion, lacerated cervix and perineum	7-14-03	Alexander's operation, excision cervix, curettage and repair of perineum
3-6-03	10349 J. G.	35	W.	Fair	Dementia paralytica	7 yrs.	Movable retroversion, lacerated cervix and perineum	7-28-03	Alexander's operation, excision cervix, curettage and repair of perineum
3-5-03	10181 ..	..	..	"	Dementia, primary	....	Movable retroversion	8-11-03	Curettage, Alexander's operation
3-9-03	10199 C. B.	43	M.	"	Melancholia, acute	14 mos.	Movable retroversion, lacerated cervix and perineum	8-18-03	Alexander's operation, curettage and perineorrhaphy
3-6-03	10184 B. C.	30	S.	"	Melancholia, acute	2 mos.	Movable retroversion	8-29-03	Curettage, Alexander's operation

OPERATIONS FOR DISPLACED UTERI

Result of operation	Physical improvement following operation	Mental improvement apparently referable to operation	Discharged	Result mental	Remaining in hospital	Remarks
Satisfactory	Marked	None	9-26-04	....	2-1-05	Slight improvement before operation
"	"	"	"	....	"	Slight mental improvement before operation
"	Slight	"	....	....	"	Slight mental improvement before operation
"	None	"	....	....	"	Some mental improvement before operation
Unsatisfactory	"	"	....	....	"	Slight mental improvement before operation
Satisfactory	Marked	"	1-18-05	Recovered	....	Slight improvement before operation
"	Slight	"	....	....	2-1-05	Slight improvement before operation
"	"	"	....	....	"	Slight improvement before operation
"	"	"	....	....	"	Slight improvement before operation
"	"	"	....	....	"	Slight improvement before operation
"	"	"	....	....	"	Slight improvement before operation
"	"	"	....	....	"	Unchanged
"	"	"	....	....	"	"
"	"	"	....	....	"	Slight improvement
"	Marked	Slight	....	....	"	Slight improvement under general treatment
Unsatisfactory	None	None	....	....	"	Slight improvement under general treatment

OPERATIONS FOR DISPLACED UTERI

Admission	Name	Age	Social condition	General health before operation	Mental diagnosis	Duration of mental disease prior to entering hospital	Pelvic condition	Date of operation	Operation
11-23-	9851 A. B.	35	S.	Fair	Mania	— yrs.	Lacerated cervix and perineum. Procidentia	7-10-03	Repair of cervix and perineum. Hysterorrhaphy
4-29-03	10330 H. B.	35	M.	"	Melancholia, acute	3 wks.	Movable retroversion, lacerated perineum	10-6-03	Curettage, Alexander's operation, repair of perineum
8-1-03	10591 H. M.	31	S.	"	Paranoia	4 yrs.	Endometritis; movable retroversion	11-8-03	Curettage, Alexander's operation
7-25-03	10555 M. B.	43	M.	"	Dementia præcox	1 yr.	Movable retroversion, lacerated cervix and perineum	11-14-03	Excision of cervix, perineorrhaphy and Alexander's operation
6-18-02	9505 N. McS.	28	M.	Poor	Me ancholia, acute	5 mos.	Movable retroversion, lacerated cervix and perineum	12-3-03	Excision of cervix, perineorrhaphy and Alexander's operation
3-9-03	10200 C. D.	25	M.	"	Mania, acute	4 wks.	Movable retroversion, lacerated cervix and perineum	12-1-03	Vaginal shortening utero-sacral ligaments, curettage and excision cervix
11-11-03	10907 M. N.	31	M.	Fair	Paranoia	6 mos.	Movable retroversion, lacerated cervix and perineum	1-7-04	Alexander's operation, excision cervix and perineorrhaphy
10-19-03	10808 E. L.	27	M.	"	Dementia præcox	3 yrs.	Movable retroversion	2-11-04	Curettage, Alexander's operation
12-17-03	11025 M. G. L.	41	M.	"	Paranoia	5 yrs.	Movable retroversion	2-16-04	Curettage, Alexander's operation
2-8-04	11188 R. H.	25	M.	Poor	Melancholia, acute	3 days	Sapræmia after labor	2-16-04	Curettage
11-6-03	10889 N. P.	38	M.	Fair	Paranoia	6 yrs.	Movable retroversion, laceration of perineum	3-24-04	Curettage, Alexander's operation and perineorrhaphy
9-18-03	10722 N. S.	36	S.	"	Dementia præcox	5 yrs.	Movable retroversion	3-24-04	Curettage, Alexander
11-11-03	10903 E. N.	25	M.	"	Melancholia, acute	3 mos.	Movable retroversion, laceration perineum	4-7-04	Alexander's operation after vaginal shortening of utero-sacral ligaments, perineorrhaphy
12-29-03	11062 S. G.	40	"	"	Dementia præcox	4 yrs.	Complete procidentia	4-14-04	LaForte's operation
12-16-92	3430 M. C.	35	"	"	Melancholia, chronic	....	Complete procidentia	4-21-04	LaForte's operation
3-2-04	11248 N. W.	39	"	Poor	Paranoia	2 yrs.	Movable retroversion, lacerated cervix and perineum	6-2-04	Alexander's operation, excision cervix, perineorrhaphy

OPERATIONS FOR DISPLACED UTERI

Result of operation	Physical improvement following operation	Mental improvement apparently referable to operation	Discharged	Result mental	Remaining in Hospital	Remarks
Satisfactory	Marked	Slight	....	....	2–1–05	Slight improvement under general treatment
"	Slight	None	....	....	"	Unchanged mentally
"	"	"	....	....	"	Slight improvement mentally
"	Marked	"	....	....	"	Unchanged mentally
"	Slight	"	....	....	"	Slight improvement
Unsatisfactory	None	"	....	....	"	Unchanged
Satisfactory	Slight	"	....	....	"	"
"	"	"	....	....	"	"
Unsatisfactory	None	"	Transferred	1–11–04	...	Slight improvement
Satisfactory	Marked	Slight	....	....	2–1–05	Unchanged
"	Slight	None	....	....	"	Slight improvement under general treatment
"	"	"	....	....	"	Slight improvement under general treatment
"	"	"	....	....	"	Slight improvement under general treatment
"	"	"	....	....	"	Unchanged
"	"	"	....	....	"	"
"	"	"	....	....	"	"

OPERATIONS FOR DISPLACED UTERI

Admission	Name	Age	Social condition	General health	Mental diagnosis	Duration of mental disturbance previous to entering hospital	Pelvic conditions	Date of operation	Operation
11-6-03	10890 N. S.	28	"	Fair	Dementia præcox	6 wks.	Movable retroversion, lacerated cervix and perineum	6-2-04	Alexander's operation, excision cervix, perineorrhaphy
3-16-04	11285 S. P.	20	S.	"	Melancholia, acute	3 mos.	Movable retroversion	6-28-04	Alexander, curettage
6-9-04	11553 N. L.	50	M.	"	Involution melancholia	2 yrs.	Procidentia, complete	7-26-04	LaForte's operation

MINOR OPERATIONS

6-13-02	9507 M. D.	23	S.	Fair	Melancholia, acute	3 previous attacks	Endometritis, stenosis of internal os	7-22-02	Divulsion and curettage
5-7-02	9392 M. D.	21	M.	"	Puerperal mania	1 mo.	Endometritis	8-1-02	Curettage
4-29-02	9373 A. E.	18	S.	"	Circular insanity	2 wks.	Endometritis	8-26-02	Divulsion and curettage
10-11-01	8963 A. O.	29	M.	"	Melancholia, acute	1 wk.	Amenorrhea, endometritis	9-10-02	Divulsion and curettage
9-8-02	9721 N. B.	32	"	"	Melancholia, acute	6 mos.	Lacerated cervix and perineum	10-7-02	Excision cervix, perineorrhaphy, curettage
8-1-02	9644 N. B.	35	"	"	Melancholia, acute	3 days	Lacerated cervix and perineum	11-6-03	Excision cervix, curettage, perineorrhaphy
3-28-02	9300 A. G.	42	"	"	Melancholia, chronic	2 yrs.	Retroposited uterus	11-13-03	Excision cervix
10-16-02	9834 B. X.	34	"	Poor	Melancholia, chronic	11 mos.	Lacerated cervix and perineum	11-13-03	Excision cervix, perineorrhaphy
12-12-01	9076 H. H.	30	"	Fair	Melancholia, acute	8 days	Lacerated cervix and perineum	12-19-02	Excision cervix, perineorrhaphy
10-31-02	9875 M. Z.	35	"	"	Melancholia, chronic	2 yrs.	Lacerated cervix and perineum	1-29-03	Excision cervix, perineorrhaphy
7-11-02	9564 T. S.	22	S.	"	Melancholia, acute (hysterical)	2 mos.	Thickened nymphæ and clitoris	9-25-02	Excision clitoris and nymphæ
11-16-02	9917 C. S.	37	M.	"	Melancholia, acute	4 mos.	Lacerated cervix and perineum	2-12-03	Excision cervix, perineorrhaphy, curettage
2-23-03	10139 F. C.	28	"	"	Paranoia	8 yrs.	Lacerated cervix and perineum	5-14-03	Excision cervix and perineorrhaphy
10-2-02	9796 M. F.	37	"	"	Melancholia, acute	9 days	Lacerated perineum	3-14-03	Curettage, repair perineum
8-6-01	8830 A. M.	25	"	"	Melancholia, chronic	1 mo.	Lacerated cervix and perineum	8-12-02	Excision cervix, repair of perineum

OPERATIONS FOR DISPLACED UTERI

Result of operation	Physical improvement following operation	Mental improvement apparently referable to operation	Discharged	Result mental	Remaining in hospital	Remarks
Satisfactory	Slight	None	....	....	2–1–05	Unchanged
....	Marked	"	....	....	"	Slight
Satsfactory	"	Slight	11–12–04	Improved	"	Marked mental improvement not referable to operation

MINOR OPERATIONS

Satisfactory	Marked	Marked	5–23–03	Improved	....	Some improvement before operation
"	Noticeable	Slight	2–28–03	Recovered	....	Operation no effect in cure
"	"	"	11–7–02	Improved	....	Operation no effect in improvement
Menstruation returned 2 mos. after operation	Marked	None	4–8–03	"	....	.....
Satisfactory	Noticeable	"	11–15–02	Recovered	....	Operation no effect in cure
"	"	"	Transferred	Improved	....	.....
"	Marked; menstruation regular and painless	Slight	6–27–03	"	....	.....
"	Slight	"	5–4–03	"	....	Slight improvement before operation
"	Noticeable	None	6–2–03	"	....	Re-admitted Oct. 10–03
"	Marked	Marked 4 mos. after operation	5–3–03	Recovered	....	Some improvement before operation
"	None	None	Transferred	Not improved	....	.....
"	Marked	Marked especially	5–23–03	Recovered	....	Improved more rapidly after operation
"	"	Slight	9–19–03	Improved	....	Re-admitted Jan. 13–04
"	Noticeable	Marked	5–16–03	Recovered	....	Slight improvement before operation
"	"	"	2–26–04	"	....	Had begun to improve before operation

MINOR OPERATIONS

Admission	Name	Age	Social condition	General health	Mental diagnosis	Duration of mental disturbance previous to entering hospital	Pelvic condition	Date of operation	Operation
11-7-02	9884 M. S.	35	M.	Fair	Chronic delusional insanity	5 mos.	Lacerated perineum	1-29-03	Curettage, perineorrhaphy
2-18-02	9185 V. S.	42	"	"	Epilepsy, dementia	4 yrs.	Laceration perineum, endometritis	2-12-02	Curettage, perineorrhaphy
11-19-02	9924 T. M.	30	"	"	Mania, acute	6 wks.	Laceration cervix and perineum	3-5-03	Excision cervix, perineorrhaphy
11-8-02	9891 N. K.	26	W.	"	Melancholia, acute	9 mos. 2 previous attacks	Laceration cervix and perineum	3-14-03	Excision cervix, repair of perineum
3-14-03	10223 M. E.	30	S.	"	Melancholia, acute	2 mos.	Endometritis	3-26-03	Curettage
3-28-03	10261 E. K.	28	M.	Poor	Mania, depressive	4 days	Sapræmia following confinement	4-1-03	"
4-26-95	42147 K. K.	33	S.	"	Dementia, terminal	4 wks.	Carcinoma uterus	4-30-03	"
3-5-03	10179 H. S.	40	M.	Poor	Melancholia, acute	1 yr.	Laceration of cervix and perineum	5-26-03	Excision of cervix and repair of perineum
3-6-03	10191 B. L.	36	"	Fair	Melancholia, acute	2 mos.	Laceration of cervix and perineum	6-9-03	Curettage, excision of cervix and repair of perineum
6-3-03	10419 B. S.	30	"	Poor	Exhaustive psychosis	1 wk.	Puerperal septicæmia	6-9-03	Exploration of cavity of the uterus
7-1-04	10941 B. D.	18	S.	"	Melancholia, chronic	2 or 3 yrs.	Endometritis	1-11-03	Curettage
3-21-03	10246 O. S.	47	M.	Fair	Dementia, terminal	3 mos.	Laceration of cervix and perineum	6-11-03	Excision cervix and repair of perineum
11-13-02	9906 F. H.	47	"	Anæmic	Melancholia, chronic	5 mos.	Laceration of perineum endometritis; retroversion	6-2-03	Curettage, repair of perineum
2-25-03	10147 B. S.	30	"	Fair	Melancholia, acute	3 mos.	Laceration cervix and perineum	6-2-03	Excision cervix, repair of perineum
3-3-03	10182 E. M. C.	30	"	"	Melancholia, chronic	2 mos.	Laceration cervix and perineum	6-27-03	Excision cervix and repair of perineum, curettage

MINOR OPERATIONS

Result of operation	Physical Improvement following operation	Mental improvement apparently referable to operation	Discharged	Result Mental	Remaining in hospital	Remarks
Satisfactory	Noticeable	None	4–9–04	Improved	....	Re-admitted
"	None	"	Died, tuberculosis 1 yr. after	....	....	.....
"	Marked	Marked	6–20–03	Recovered	....	Four mos. prior to operation no improvement; after operation improvement rapid to time of discharge
"	"	"	4–17–03	"	Re-admitted 5–2–04	No improvement before operation; 1 mo. after operation bright and cheerful having no delusion or trace of former depression
"	Slight	"	5–11–03	"	....	Mental depression in part relieved by operation
"	Marked	"	7–4–03	"	....	No improvement before operation
None	None	None	....	Died June 22, exhaustion from progress of carcinoma	....	.....
Satisfactory	Marked	Marked	7–28–03	Recovered	....	Considerable improvement prior to operation. Remained in hospital 4 mos.
"	"	"	9–19–03	"	....	Re-admitted. Considerable improvement prior to operation
"	None	None	Died 6–17–03 Acute lobar pneumonia	....	....	Exploration of the uterus was to determine presence of placental or decidual tissue
"	Marked	Slight	6–22–03	Improved	....	Some improvement prior to operation
"	Slight	"	11–19–03	"	...	Slight mental improvement prior to operation
"	Marked	"	10–22–03	"	....	Slight improvement before operation
"	Slight	"	Died 3–14–04 Exhaustion	....	....	Slight improvement before operation
"	"	None	....	....	2–05	Slight improvement before operation

MINOR OPERATIONS

Admission	Name	Age	Social condition	General health	Mental diagnosis	Duration of mental disturbance previous to entering hospital	Pelvic condition	Date of operation	Operation
8-17-03	10214 F. V.	41	M.	Fair	Paranoia	2 yrs.	Laceration cervix and perineum	7-19-03	Excision cervix and repair of perineum, curettage
4-22-03	10315 R. G.	28	"	Poor	Mania chronic	4 mos.	Endometritis; laceration of perineum	7-25-03	Curettage, excision cervix and repair of perineum
6-8-03	10437 E. O' L.	44	"	Fair	Melancholia, chronic	3 yrs.	Endometritis; laceration of perineum	8-1-03	Curettage and repair of perineum
8-25-03	10255 H. R.	26	"	"	Dementia terminal	4 mos.	Laceration cervix and perineum	8-11-03	Curettage, excision of cervix and repair of perineum
6-17-01	8710 M. P.	25	"	"	Melancholia, chronic	5 yrs.	Endometritis; laceration of cervix and perineum	8-1-03	Curettage, excision of cervix and perineorrhaphy
8-20-03	10241 D. T.	22	"	"	Melancholia, acute puerperal	11 days	Endometritis; laceration of cervix and perineum	8-4-03	Curettage, repair of cervix and perineum
8-19-03	10238 L. L.	28	"	"	Dementia, secondary	10 yrs.	Complete laceration of perineum	8-11-03	Repair of perineum
8-15-03	10300 M. N.	36	"	Poor	Melancholia, acute	2 wks.	Fistula in ano	8-15-03	Repair
8-18-03	10230 S. L.	34	"	Fair	Mania, acute	2 wks.	Laceration cervix and perineum	8-15-03	Curettage and repair of perineum
8-19-03	10240 C. S.	46	"	"	Paranoia	2 wks.	Lacerated cervix and perineum	8-8-03	Curettage, excision of cervix, perineorrhaphy
8-28-03	10265 A. B.	36	"	"	Paranoia	1 yr.	Lacerated cervix and perineum	8-8-03	Curettage, excision of cervix, perineorrhaphy
5-1-03	10340 M. K.	27	"	"	Dementia præcox	1 mo.	Endometritis	8-18-03	Curettage
5-16-03	10382 M. D.	30	S.	"	Melancholia, acute	18 mos.	Endometritis	9-10-03	Curettage
5-22-02	9424 R. McG. B.	35	M.	"	Dementia præcox	7 or 8 wks.	Lacerated cervix and perineum	8-5-02	Excision of cervix, perineorrhaphy
10-10-02	9827 L. C.	34	..	Fair	Dementia terminal	9 yrs.	Endometritis	4-2-03	Curettage
6-5-03	10429 E. Y.	32	M.	"	Maniacal delusional insanity	2 mos.	Lacerated cervix and perineum	11-10-03	Curettage, excision of cervix and perineorrhaphy
3-21-03	10249 M. S.	30	"	"	Mania, acute	2 wks.	Endometritis, lacerated cervix and perineum	12-8-03	Curettage, trachelorrhaphy and perineorrhaphy
2-4-03	10093 C. R.	34	"	"	" "	8 mos.	Endometritis, lacerated cervix and perineum	12-15-03	Curettage, excision of cervix, perineorrhaphy
7-1-03	10490 A. O.	35	"	"	Melancholia, acute	3 wks.	Lacerated cervix and perineum	9-15-03	Curettage, excision of cervix, perineorrhaphy

MINOR OPERATIONS

Result of operation	Physical improvement following operation	Mental improvement apparently referable to operation	Discharged	Result mental	Remaining in hospital	Remarks
Satisfactory	Marked	None	....	....	2–05	Condition unchanged
"	"	"	....	....	"	Slight improvement before operation
"	"	"	....	....	"	Slight improvement before operation
"	"	"	....	....	"	Slight improvement before operation
"	"	"	....	....	"	Slight improvement before operation
"	"	"	....	....	"	Unchanged
"	"	"	....	....	"	Slight improvement
"	"	"	....	....	"	Unchanged
"	"	"	....	....	"	"
"	"	Slight	10–23–03 Re-admitted 6–2–04	Improved	....	Slight mental improvement before operation
"	Slight	"	2–5–04	"	....	Slight mental improvement before operation
"	Marked	Marked	1–4–04	Recovered	....	Slight mental improvement before operation
"	Slight	Slight	10–16–03	Improved	....	Slight mental improvement before operation
"	None	None	Died 10–23–04 Exhaustion	None		.....
"	Marked	None	Transferred 8–4–04	Improved	....	Transferred to East Hospital Aug. 4–04
"	"	Slight	10–12–04	Recovered	....	Great improvement before operation
"	Slight	"	4–18–04	"	....	Slight mental improvement before operation
"	"	"	1–11–04	"	....	Slight mental improvement before operation
"	Marked	"	11–6–03	"	....	Considerable mental improvement before operation

MINOR OPERATIONS

missio	Name	Age	Social condition	General health	Mental diagnosis	Duration of mental disturbance previous to entering hospital	Pelvic condition	Date of operation	Operation	Resu oper
3-22-03	10800 M. R.	30	M.	Fair	Melancholia, acute	1 mo.	Lacerated cervix	1-12-04	Excision of cervix	Satisf
10-22-03	10838 E. Q.	35	"	"	Melancholia, acute	5 mos.	Endometritis	1-22-04	Curettage	
12-15-03	11053 I. T.	27	S.	"	Mania, acute	1 mo.	Constriction of urethra	2-4-04	Urethra dilated, curettage	
12-14-03	11017 S. S.	21	"	"	Melancholia, chronic	17 mos.	Endometritis	3-10-04	Curettage	
12-28-03	11057 S. R.	35	M.	"	Mania, acute	8 mos.	Lacerated cervix and perineum	4-7-04	Excision of cervix and perineorrhaphy	
7-3-03	10496 E. T.	50	"	"	" "	2 mos.	Lacerated perineum	4-14-04	Perineorrhaphy	
3-17-04	11288 M. G.	26	S.	Poor	Dementia præcox	1 mo.	Anteflexion	5-26-04	Curettage	
5-12-04	11457 B. M.	32	M.	Fair	Dementia præcox	18 mos.	Endometritis, lacerated perineum	7-19-04	Curettage, perineorrhaphy	
11-6-03	10837 E. L.	35	"	"	Maniacal delusional insanity	10 days	Endometritis, lacerated cervix and perineum	7-30-04	Curettage, excision of cervix and perineorrhaphy	
5-27-01	8668 M. M.	25	S.	"	Melancholia, chronic	1 yr.	Endometritis	7-29-02	Curettage	
7-31-01	8818 E. P.	22	"	"	Melancholia, chronic	3 yrs.	Anteflexed uterus, dysmenorrhœa,	8-5-02	Curettage	
9-17-01	8912 C. K.	37		Poor	Melancholia, chronic	1½ yrs.	Lacerated cervix and perineum	8-26-02	Excision of cervix, perineorrhaphy, curettage	
1-8-02	9129 E. S.	39	W	Fair	Dementia præcox	2½ yrs.	Lacerated cervix and perineum	9-30-02	Excision of cervix, perineorrhaphy, curettage	
12-24-01	9098 A. L.	32	M.	"	Melancholia, chronic	6 mos.	Lacerated cervix and perineum	9-9-02	Excision of cervix, perineorrhaphy, curettage	
1-16-02	9144 G. H. L. L.	20	S.	"	Mania, chronic	6 wks.	Endometritis	9-23-02	Curettage	
8-9-02	9634 L. Q.	25	"	"	Dementia, primary	..	Lacerated cervix and perineum	10-10-02	Excision cervix and perineorrhaphy	
9-19-02	9761 E. H.	..	M.	"	Paranoia	5 yrs.	Cervical polyp	11-13-02	Excision of polyp	
10-21-02	9849 M. K.	34	"	"	Melancholia, chronic	8 mos.	Lacerated cervix, perineum	12-11-02	Excision of cervix and perineorrhaphy	
9-3-02	9713 A. D.	26	"	"	Melancholia, chronic	2 mos.	Endometritis	1-1-03	Curettage	
10-31-02	9872 T. H.	22	S.	"	Melancholia, acute hysterical	2½ yrs.	"	2-26-03	"	
8-13-02	9652 T. L.	44	W.	"	Melancholia, acute	9 mos.	Endometritis; lacerated cervix and perineum	3-5-03	Excision of cervix and perineorrhaphy	

MINOR OPERATIONS

Result of operation	Physical improvement following operation	Mental improvement apparently referable to operation	Discharged	Result mental	Remaining in hospital	Remarks.
Satisfactory	Marked	Slight	3-22-04	Recovered	....	Improvement before operation
"	Slight	"	3-4-04	"	....	Improvement before operation
"	"	"	3-29-04	Improved	....	Slight improvement before operation
"	"	"	4-14-04	Recovered	....	Improvement before operation
"	"	None	6-10-04	Improved	....	Slight improvement before operation
"	"	Slight	6-25-04	Recovered	....	Improvement before operation
"	Marked	Marked	6-23-04	"	....	Some improvement before operation
"	Slight	None	10-11-04	Improved	....	Slight improvement before operation
"	"	Slight	9-19-04	Recovered	....	Marked improvement before operation
"	Marked	"	....	Improved	2-1-05	Slight improvement before operation; been in hospital four years
"	None	None	....	....	"	No improvement before or after operation
"	Some	"	....	....	"	No mental improvement before or after operation
"	Marked	"	....	....	"	No mental improvement before or after operation
"	Slight	"	....	....	"	Slight mental improvement before operation
"	"	Slight	....	....	"	Some mental improvement before operation
"	"	None	....	....	"	Slight mental improvement before operation
"	None	"	....	....	"	No mental improvement before or after operation
"	Marked	"	....	....	"	Some mental improvement before operation
"	"	"	....	....	"	Some mental improvement before operation
"	"	"	....	....	"	Slight mental improvement before operation
"	"	Slight	12-20-04	Recovered	....	Mental improvement before operation

MINOR OPERATIONS

Admission	Name	Age	Social condition	General health	Mental diagnosis	Duration of mental disturbance previous to entering hospital	Pelvic condition	Date of operation	Operation
12-6-01	9066 R. S.	41	M.	Fair	Melancholia, chronic	12 yrs.	Fistula in ano, lacerated perineum	6-23-03	Excision of fistula in ano, perineorrhaphy
9-14-01	8901 M. P.	39	"	"	Melancholia, chronic	2 yrs.	Endometritis; lacerated sphincter ani	3-26-03	Perineorrhaphy and curettage
10-9-02	9816 P. N.	25	S.	"	Mania, chronic	2 mos.	Endometritis; lacerated cervix and perineum	4-2-03	Curettage, trachelorrhaphy, perineorrhaphy
9-6-02	9720 R. S.	22	M.	"	Dementia, secondary to epilepsy	1 yr.	Lacerated cervix and perineum	4-9-03	Excision of cervix and perineorrhaphy
12-9-84	1792 R. F.	42	..	"	Mania, chronic	2 yrs.	Cervical polyp, lacerated sphincter ani	4-23-03	Excision of polyp, perineorrhaphy
2-5-92	31-220 J. N.	38	..	Poor	Dementia, secondary	3 yrs.	Cyst of right breast	5-7-03	Excision of cyst
4-2-03	10273 C. E.	61	S.	Fair	Paranoia	....	Cervical polyp	6-27-03	Excision of polyp
7-4-92	3378 M. F.	36	?	"	Dementia, terminal	1 mo.	Lacerated cervix, perineum, endometritis	8-25-03	Curettage, repair of cervix and perineum
11-15-02	8915 N. T.	38	M.	"	Melancholia, chronic	3 wks.	Laceration cervix and perineum	8-25-03	Curettage, excision of cervix and perineorrhaphy
3-3-03	10174 N. T.	27	"	"	Melancholia, acute	....	Laceration of cervix and perineum	9-1-03	Curettage, excision cervix and perineorrhaphy
4-16-03	10303 M. H.	36	S.	"	Paranoia	2 yrs.	Specific endometritis	9-5-03	Curettage
8-7-03	10610 E. V.	41	M.	"	Dementia, terminal	13 yrs.	Laceration of cervix and perineum	9-5-03	Curettage, excision of cervix and perineorrhaphy
5-15-03	10380 N. G.	41	S.	Poor	Melancholia, acute	2 yrs.	Laceration of perineum	9-17-03	Curettage and perineorrhaphy
6-26-03	10478 A. F.	36	"	"	Melancholia, chronic	8 yrs.	Endometritis and retroversion	9-17-03	Curettage
7-25-03	10551 C. D.	47	W.	Fair	Melancholia, chronic	8 yrs.	Endometritis	9-29-03	Curettage
8-1-03	10593 E. S.	47	?	"	Dementia, terminal	....	Laceration of cervix and perineum	9-29-03	Curettage, excision cervix and perineorrhaphy
7-4-03	10504 E. M.	33	S.	"	Dementia præcox	....	Laceration of cervix and perineum	10-6-03	Curettage, excision cervix
8-1-03	10953 E. S.	47	M.	"	Dementia præcox	....	Laceration cervix and perineum	10-8-03	Curettage, excision cervix and perineorrhaphy
9-10-02	9727 N. D.	45	"	"	Melancholia, chronic	20 mos.	Complete laceration through perineum	10-15-03	Repair of laceration
7-17-03	10540 E. F.	30	"	Poor	Dementia præcox	3 yrs.	Laceration cervix and perineum	10-5-03	Excision of cervix and repair of perineum

MINOR OPERATIONS

Result of operation	Physical improvement following operation	Mental improvement apparently referable to operation	Discharged	Result mental	Remaining in hospital	Remarks
Satisfactory	Marked	Marked	....	....	2–1–05	Some mental improvement before operation
	"	None	....	....	"	Some mental improvement before operation
"	"	"	....	....	"	Some mental improvement before operation
"	Slight	"	....	....	"	No mental improvement before or after operation
"	Marked	"	....	....	"	Mental improvement before operation
"	"	"	....	....	"	Slight improvement before operation
"	Slight	"	....	....	"	Slight improvement before operation
"	Marked	"	....	....	"	No change
"	"	"	....	....	"	" "
"	"	"	....	....	"	Slight mental improvement
Unsatisfactory	None	"	....	....	"	No change
Satisfactory	Slight	"	....	....	"	" "
"	Has tuberculosis	"	....	....	"	Slight mental improvement
"	Marked	"	....	....	"	Slight mental improvement
"	"	"	....	....	"	Slight mental improvement
"	Slight	"	....	....	"	No change
"	Marked	"	....	....	"	" "
"	Slight	"	....	....	"	" "
"	"	"	....	....	"	" "
"	Marked	"	....	....	"	" "

MINOR OPERATIONS

Admission	Name	Age	Social condition	General health	Mental diagnosis	Duration of mental disturbance previous to entering hospital	Pelvic condition	Date of operation	Operation
12-6-01	9066 R. S.	41	M.	Fair	Melancholia, chronic	12 yrs.	Fistula in ano, lacerated perineum	6-23-03	Excision of fistula in ano, perineorrhaphy
9-14-01	8901 M. P.	39	"	"	Melancholia, chronic	2 yrs.	Endometritis; lacerated sphincter ani	3-26-03	Perineorrhaphy and curettage
10-9-02	9816 P. N.	25	S.	"	Mania, chronic	2 mos.	Endometritis; lacerated cervix and perineum	4-2-03	Curettage, trachelorrhaphy, perineorrhaphy
9-6-02	9720 R. S.	22	M.	"	Dementia, secondary to epilepsy	1 yr.	Lacerated cervix and perineum	4-9-03	Excision of cervix and perineorrhaphy
12-9-84	1792 R. F.	42	..	"	Mania, chronic	2 yrs.	Cervical polyp, lacerated sphincter ani	4-23-03	Excision of polyp, perineorrhaphy
2-5-92	31-220 J. N.	38	..	Poor	Dementia, secondary	3 yrs.	Cyst of right breast	5-7-03	Excision of cyst
4-2-03	10273 C. E.	61	S.	Fair	Paranoia	....	Cervical polyp	6-27-03	Excision of polyp
7-4-92	3378 M. F.	36	?	"	Dementia, terminal	1 mo.	Lacerated cervix, perineum, endometritis	8-25-03	Curettage, repair of cervix and perineum
11-15-02	8915 N. T.	38	M.	"	Melancholia, chronic	3 wks.	Laceration cervix and perineum	8-25-03	Curettage, excision of cervix and perineorrhaphy
3-3-03	10174 N. T.	27	"	"	Melancholia, acute	....	Laceration of cervix and perineum	9-1-03	Curettage, excision cervix and perineorrhaphy
4-16-03	10303 M. H.	36	S.	"	Paranoia	2 yrs.	Specific endometritis	9-5-03	Curettage
8-7-03	10610 E. V.	41	M.	"	Dementia, terminal	13 yrs.	Laceration of cervix and perineum	9-5-03	Curettage, excision of cervix and perineorrhaphy
5-15-03	10380 N. G.	41	S.	Poor	Melancholia, acute	2 yrs.	Laceration of perineum	9-17-03	Curettage and perineorrhaphy
6-26-03	10478 A. F.	36	"	"	Melancholia, chronic	8 yrs.	Endometritis and retroversion	9-17-03	Curettage
7-25-03	10551 C. D.	47	W.	Fair	Melancholia, chronic	8 yrs.	Endometritis	9-29-03	Curettage
8-1-03	10593 E. S.	47	?	"	Dementia, terminal	....	Laceration of cervix and perineum	9-29-03	Curettage, excision cervix and perineorrhaphy
7-4-03	10504 E. M.	33	S.	"	Dementia præcox	....	Laceration of cervix and perineum	10-6-03	Curettage, excision cervix
8-1-03	10953 E. S.	47	M.	"	Dementia præcox	....	Laceration cervix and perineum	10-8-03	Curettage, excision cervix and perineorrhaphy
9-10-02	9727 N. D.	45	"	"	Melancholia, chronic	20 mos.	Complete laceration through perineum	10-15-03	Repair of laceration
7-17-03	10540 E. F.	30	"	Poor	Dementia præcox	3 yrs.	Laceration cervix and perineum	10-5-03	Excision of cervix and repair of perineum

MINOR OPERATIONS

Result of operation	Physical improvement following operation	Mental improvement apparently referable to operation	Discharged	Result mental	Remaining in hospital	Remarks
atisfactory	Marked	Marked	....	....	2–1–05	Some mental improvement before operation
	"	None	....	....	"	Some mental improvement before operation
"	"	"	....	....	"	Some mental improvement before operation
"	Slight	"	....	....	"	No mental improvement before or after operation
"	Marked	"	....	....	"	Mental improvement before operation
"	"	"	....	....	"	Slight improvement before operation
"	Slight	"	....	....	"	Slight improvement before operation
"	Marked	"	....	....	"	No change
"	"	"	....	....	"	" "
"	"	"	....	....	"	Slight mental improvement
nsatisfactory	None	"	....	....	"	No change
Satisfactory	Slight	"	....	....	"	" "
"	Has tuberculosis	"	....	....	"	Slight mental improvement
"	Marked	"	....	....	"	Slight mental improvement
"	"	"	....	....	"	Slight mental improvement
"	Slight	"	....	....	"	No change
"	Marked	"	....	....	"	" "
"	Slight	"	....	....	"	" "
"	"	"	....	....	"	" "
"	Marked	"	....	....	"	" "

MINOR OPERATIONS

Admission	Name	Age	Social condition	General health	Mental diagnosis	Duration of mental disturbance previous to entering hospital	Pelvic condition	Date of operation	Operation	Result of operation
7-29-03	10557 D. S.	30	M.	Fair	Dementia præcox	....	Endometritis	11-10-03	Curettage	Satisfactory
2-5-03	10097 E. D.	38	"	"	Melancholia, chronic	3 yrs.	Endometritis, laceration of perineum	11-17-03	Curettage and repair of perineum	"
2-10-03	10113 D. H.	35	"	"	Melancholia, acute	8 mos.	Endometritis, laceration of cervix and perineum	11-17-03	Curettage, repair of cervix and perineum	"
1-7-03	10025 C. K.	22	"	"	Dementia paralytica	1 yr.	Endometritis, laceration of cervix and perineum	11-24-03	Curettage, excision of cervix and repair of perineum	"
6-19-03	10467 E. G.	50	"	"	Paranoia	3 yrs.	Laceration of perineum	11-24-03	Perineorrhaphy	"
2-6-03	10127 F. S.	34	"	"	Melancholia, chronic	4 mos.	Endometritis, laceration of perineum	12-1-03	Perineorrhaphy and curettage	"
7-7-90	22245 L. W.	24	W.	"	Melancholia, chronic	....	Endometritis, laceration of perineum	12-8-03	Curettage and perineorrhaphy	"
6-6-03	10431 M. K.	30	"	"	Dementia præcox	2 mos.	Endometritis, laceration of perineum	12-15-03	Curettage, excision of cervix and perineorrhaphy	"
9-7-03	10720 T. G.	38	"	Poor	Melancholia, acute	2 mos.	Endometritis	12-22-03	Curettage	"
5-15-03	10379 M. D.	34	"	Fair	Dementia præcox	3 wks.	Laceration of perineum	12-24-03	Perineorrhaphy	"
8-21-03	10653 N. G.	36	S.	"	Dementia paralytica	1 mo.	Endometritis	12-24-03	Curettage	"
3-4-03	10175 M. C.	46	M.	"	Paranoia	3 mos.	"	12-29-03	"	"
8-12-03	10618 O. D.	27	"	"	Mania chronic	1 yr.	Laceration cervix and perineum	1-19-04	Curettage, trachelorrhaphy	"
8-17-03	10622 J. M.	21	"	"	Mania, acute	11 days	Laceration perineum, endometritis	1-18-04	Curettage, perineorrhaphy	"
5-14-03	10376 K. K.	26	"	"	Dementia præcox	12 days	Endometritis, laceration perineum	1-26-04	Curettage, perineorrhaphy	"
10-28-03	10833 M. F.	29	S.	"	Melancholia, chronic	6 yrs.	Endometritis	2-9-04	Curettage	"
3-6-03	10183 G. B.	32	M.	"	Paranoia	8 yrs.	Endometritis, laceration perineum	12-17-03	Curettage, perineorrhaphy	"
12-5-03	10985 M. McC.	43	"	"	Melancholia, chronic	7 yrs.	Laceration cervix and perineum	4-19-04	Curettage, excision cervix, perineorrhaphy	"
9-19-03	10723 M. C.	35	S.	Good	Paranoia	5 yrs.	Laceration cervix	2-20-04	Trachelorrhaphy and curettage	"
11-25-03	10940 C. D.	30	M.	Fair	Mania, acute	4 mos.	Endometritis, laceration perineum	3-1-04	Curettage, perineorrhaphy	"
10-10-03	10793 F. S.	30	"	"	Mania, chronic	5 yrs.	Laceration perineum	3-3-04	Perineorrhaphy	"
10-19-03	10806 M. D.	28	S.	"	Dementia præcox	2 yrs.	Movable retroversion	3-10-04	Curettage	"

MINOR OPERATIONS

Result of operation	Physical improvement following operation	Mental improvement apparently referable to operation	Discharged	Result mental	Remaining in hospital	Remarks
tisfactory	Slight	None	....	....	3–1–05	No change
"	Marked	"	....	....	....	Slight improvement
"	"	"	....	....	2–1905	Slight improvement
"	Slight	"	....	....	"	No improvement
"	"	"	....	....	"	" "
"	"	Slight	....	....	"	Slight improvement
"	"	None	....	....	"	" "
"	"	"	....	....	"	Unchanged
"	"	"	11–1–04	Recovered	....	.....
"	"	"	....	....	2–1905	Unchanged
"	"	"	....	....	"	"
"	Marked	"	....	....	"	"
"	Slight	"	....	....	"	"
"	"	"	....	....	"	Slight improvement
"	"	"	....	....	"	Unchanged
"	"	"	....	....	"	Slight improvement
"	"	....	....	....	"	" "
"	Marked	None	....	....	"	" "
"	Slight	"	....	....	"	" "
"	Marked	Slight	....	...	"	" "
"	"	None	....	....	"	" "
"	Slight	Slight	....	....	"	" "

MINOR OPERATIONS

Admission	Name	Age	Social condition	General health	Mental diagnosis	Duration of mental disturbance previous to entering hospital	Pelvic condition	Date of operation	Operation	Result
8-24-03	10656 M. D.	38	M.	Fair	Dementia præcox	..	Laceration cervix and perineum; hemorrhoids	3-31-04	Excision cervix and repair of perineum removal hemorrhoids	Satisfa
1-23-04	11139 C. D.	21	W.	"	Mania, acute	1 mo.	Endometritis, laceration of cervix and perineum	4-19-04	Curettage, excision cervix and perineum	
12-10-03	11000 M. G.	28	S.	"	Melancholia, chronic, alcoholic	5 yrs.	Anteflexion	4-20-04	Curettage, uterine stem	
12-30-03	11074 R. H.	26	M.	Poor	Melancholia, acute	4 mos.	Endometritis, laceration perineum	4-26-04	Curettage, perineorrhaphy	
3-9-04	11270 A. S.	37	"	Fair	Paranoia	4 yrs.	Endometritis, laceration of cervix and perineum	5-5-04	Curettage, perineorrhaphy	
10-26-03	10851 C. S.	36	"	Good	Dementia præcox	3 mos.	Endometritis, laceration of cervix and perineum	6-21-04	Curettage, excision cervix and repair perineum	
4-15-04	11368 R. R.	39	"	Fair	Paranoia	17 yrs.	Movable retroversion, lacerated cervix and perineum	6-22-04	Curettage, excision cervix, repair of perineum	
4-13-04	11358 F. N.	24	S.	"	Dementia præcox	1 yr.	Anteflexion	6-9-04	Curettage	
4-5-04	11334 S. M.	38	M.	"	Dementia præcox	1 mo.	Rectocele laceration cervix and perineum	6-28-04	Excision of cervix and perineorrhaphy	
3-17-04	11291 O. K.	22	S.	"	Dementia præcox	4 days	Movable retroversion	6-9-04	Curettage	
1-13-02	11110 M. B.	42	W.	"	Dementia paralytica	1 yr.	Complete laceration of perineum	7-19-04	Repair of laceration	
4-22-04	11300 T. M.	31	S.	"	Mania, acute, recurrent	2 wks.	Endometritis	7-23-04	Curettage	
10-23-04	10846 L. R.	31	M.	"	Dementia præcox	2 wks.	Laceration cervix and perineum	7-23-04	Curettage, excision cervix and perineum	
6-29-04	11604 N. F.	32	"	"	Dementia præcox	5 yrs.	Endometritis, laceration of perineum	7-30-04	Curettage, perineorrhaphy	
4-21-04	11382 C. K.	33	"	"	Dementia præcox	2 mos.	Endometritis, laceration of cervix and perineum	8-29-04	Curettage, excision cervix and perineum	
3-30-04	11323 L. L.	28	"	"	Melancholia, acute	6 yrs.	Anteflexion	8-29-04	Curettage	

MINOR OPERATIONS

Result of operation	Physical improvement following operation	Mental improvement referable to operation	Discharged	Result Mental	Remaining in hospital	Remarks
Satisfactory	Slight	Slight	....	....	2–1905	Slight improvement
"	"	None	....	....	"	" "
"	Marked	"	....	....	"	" "
"	"	Slight	....	....	"	" "
"	Slight	None	....	....	"	" "
"	"	Slight	....	....	"	" "
"	Marked	None	....	....	"	" "
"	Slight	"	....	....	"	Unchanged
"	"	"	....	....	"	"
"	None	"	....	....	"	Slight improvement
"	Slight	"	....	....	"	" "
"	"	"	....	....	"	" "
"	Marked	"	....	....	"	" "
"	Slight	"	....	....	"	Unchanged
"	"	Slight	....	....	"	Slight improvement
"	"	None	....	....	"	" "

SURGERY FOR THE RELIEF OF INSANE CONDITIONS.*

By Max E. Witte, M. D.,

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Medicine and what thereunto belongeth is a science in theory only; its application in practice is an art and as such is not subject to closely and clearly drawn rigid laws according to which it moves and has its being. Even theoretically as a science it, or our knowledge of it, lacks the comprehensiveness and definiteness which would warrant us in expressing it under the form of an equation. Our judgments are chiefly qualitative and then often imperfect, and it is rarely we can apply quantitative standards of measurements. And this imperfect status of our profession should occasion no surprise or painful chagrin when we remember the incomplete, or even frequently rudimentary, condition of the subsidiary or fundamental sciences on which medicine is based. While only vanishingly slight certain knowledge obtains in the domains of physics and chemistry, so that even the nature of its subject is not known but a matter of dispute or fancy, the difficulties and obscurities in the way of our understanding multiply as we ascend the ladder of the sciences in our quest on the trail of matter evolving onto higher planes. In the expansion of the various biological sciences, we can see things as through a glass darkly; can conjecture and note trends and dispositions, and occasionally break out a solid block for our certain knowledge and place it under the reign of law, but in much we must be content to approximate reality as closely as we may. Complete evidence is lacking to form just such judgments, or, mathematically speaking, too many unknown quantities for which we as yet have no equations enter into the problem. We deal with the phenomenon, but phenomena are illusive and modified by the individual observing and interpreting mind. But this should not engender in us a paralyzing pessimism to annul our efforts, but on the contrary should arouse our combativeness, spur us on to search for the missing equations, and to victorious achievement.

*Read at the Sixty-first Annual Meeting of The American Medico-Psychological Association, San Antonio, Texas, April 20, 1905.

At the same time we should be careful to abstain from prejudice in matters still under judgment, to eliminate the personal equation, and above all avoid a fossilizing dogmatism to blind us; but on the contrary, we should cultivate a critical and conservative mental attitude, ever ready to accept the true and reject the false, until the touchstone of experience in time clarifies our knowledge. Amongst the problems of this character, I would classify that of surgical intervention in alienated mental conditions.

So much controversy, so many claims for and against, so much partisan acrimony, so many discordant statistics, based apparently on diametrically opposed experience, envelopes this subject, and this a subject on which one would on first cast expect certainty, since coming under objective experience, that we, looking at the matter philosophically and unbiased, cannot avoid the conclusion that these various claimants have been hasty and have formed hard and fast conclusions on insufficient evidence and that at best their dicta merit no greater consideration than provisional opinions, and should be so considered. One source of error in the claims of those who believe in the vast beneficence of surgery in the insane is, in my opinion, the omission of the element of time. This is an important omission, and I have been particularly impressed that this is true in a number of cases to the point in my own experience, to which I shall refer later on.

Again, I am convinced that in certain cases wherein surgical procedures were beneficial and followed by amelioration and perhaps restoration in the mental condition, this happy result is not so much due to the premeditated and planned removal or correction of foci of irritation as to the operation *per se* and its consequent crisis in the organism, with its attendant changes in innervation, circulation, nutrition, and metabolism. Improvement in many cases in whom I operated for the relief of morbid conditions other than mental, bear me out in this; moreover, we find similar experience in other fields of surgical work. I may mention only the good results following simple abdominal section in tubercular peritonitis.

Again, it is a matter of sufficiently frequent observation of those who have had considerable experience with the insane, that crises other than of surgical origin play a remedial rôle. I well remember the case of a woman, some 35 years of age, who had

been subject to chronic mania for a dozen years or more, who was much disordered and disturbed, with extensive and apparently constantly increasing mental deterioration, who even for years had had no comparatively quiet or lucid intervals, but who was continuously noisy, disorderly, destructive, and slovenly, unable to comprehend her condition or situation in time or space or to frame an intelligent reply to a simple question, who had been considered hopelessly insane and incurable for years, who was attacked by acute lobar pneumonia and for a number of days was gravely ill. This woman, with the development of pulmonary inflammation, became quiet and orderly, and not only this, but completely rational and clear mentally. She remained sane after convalescence from the pneumonia, and after a sufficient period of observation, during which she manifested no mental disorder or even observable impairment, she was discharged recovered. She remained well some four years afterward, and so far as I know is well to-day. In this case mental restoration was so closely connected with the pneumonia that the conclusions seems inevitable, that it was *propter hoc* and not *post hoc*.

In another instance, in the days of airing courts surrounded by high enclosure, a man sought to escape over a fence fourteen feet high by climbing a large silver maple growing near and letting himself down on the other side by the overhanging branches. Instead of bending, the branch broke and the patient fell headlong a distance of thirty feet and broke his arm. Now the strange feature of the case comes in. This patient, who had been considered hopelessly insane for years, recovered promptly, not only from the fracture of the humerus, but also mentally.

Now a few swallows do not make spring, and the lessons drawn from the aforementioned cases should not induce us to adopt pneumonia and the forcible precipitation from a height into our remedial armamentarium for the treatment of the insane. I have simply referred to these cases out of a number to illustrate my contention. They no doubt can be easily duplicated by others in the experience of my auditors.

Now as to surgery in the treatment of the insane, we may premise the discussion of the subject with the axiomatic statement that it should be employed under precisely the same con-

ditions and circumstances in the insane as in the sane. When or wherever the life of the patient can be prolonged or his health or comfort be promoted by surgical intervention, it is our solemn duty to aid him in this manner. Anything less is remissness; anything more, rashness. I think we are all agreed on this, and no one should find fault with this position. Should we, therefore, find in the insane morbid or abnormal conditions calling for operative or other surgical measures, we should employ them, primarily in the hope to benefit and improve the patient's general health, and secondarily, to thereby increase his chances for mental improvement.

This is "safe and sane" practice, and I may say, only by way of parenthesis, that the insane are entitled, justly entitled, to the benefit of the same diagnostic and surgical skill, antiseptic precautions, care, and nursing as the sane.

There are, however, two fields of surgical endeavor to which psychiatrical importance has been attached and wherein the experience of observers diverge and opinions differ. These subjects at issue are cerebral as the one and pelvic in the female as the other, for the relief of insane conditions. And since the views are so discordant touching these matters it seems to me to be the part of prudence to suspend definite judgment until time and trial shall bring in more extensive and reliable evidence. At least let our conclusions for the present be only provisional and capable of being modified and changed by subsequent developments bearing on this question. For the further elucidation of the subject it will be important, nay necessary, that we should carefully observe and faithfully report cases having bearing, in order that our own experience may be enriched and interpreted by that of our fellow-worker in the field. Above all, let us be fair and impartial and avoid partisanship. It is so human to take sides, to color and exalt testimony on the side we advocate, and to neglect evidence against it.

It is in the field of cerebral, or rather cranial, surgery that we perhaps most frequently encounter importunities of friends to do something, and this whether or not there are indications in the way of old fractures of the skull with depression, or even a well-defined history of cranial injury. Scarcely a week goes by that I am not urged by some solicitous friend to examine Mr. X. with

a view of having something done in an operative way for his relief. The request is usually explained that he once upon a time when a small boy fell on the ice, or had been crowded against the stall by a horse, or that the doctor had made the statement that his insanity is due to "clot on the brain." Now these people no doubt feel considerable disappointment because I cannot fall in with their views and refuse to operate or sanction operation without marked and well-defined indications for the same. It is very natural that friends should be anxious for the relief of their patient, and like a drowning man grasp at straws. Their feelings override their judgment, especially as the latter is uninformed on the matters at issue, and led astray by highly colored and sensational reports finding their way into the lay press, of brilliant achievements, by some bold operator, bordering on the miraculous, in the cure of insanity. Akin to this is the frequently heard clamor for vertebral readjustment, having its origin in the osteopathic intellectual occultation.

However, we meet sufficiently often with cases of unmistakable cranial or cerebral traumatism, with fracture and perhaps depression of fragments of the skull. Usually the injury occurred long ago and insanity developed subsequently and is, indubitably or reasonably certain, consequent or dependent on it. Mental disorder increases and the friends or the patient himself is very urgent to have the source of his mental derangement, as they believe, removed by operation.

Now what can we say to these people? What does experience justify us in advising? What can we promise? What hopes hold out?

It is indeed a question of vast moment that stares us in the face for our solution. On the solution depends the weal or woe of a human being, and not only one but many may be vitally affected by it. The ruin or salvation of a human life is no small matter, but, to those concerned, of the greatest importance. It behooves us, therefore, to bring forward to the solution our best efforts and all the light we can obtain in experience or otherwise, so that we may decide justly and do what is needful. I have been much interested in the subject, and during the many years of my service in behalf of the insane have observed the results not only of my own work in this line, but also that of others; and amongst these

were some of the deservedly most famous surgeons of our country. As a result there has been born and grown within me a pronounced and critical conservatism in thought and action, if not a despondent pessimism in all cases of mental disturbance where a considerable period has elapsed since the receipt of the injury.

I may be pardoned if, as partly illustrative of the subject, I briefly outline from memory the history of two cases upon which I operated, and two cases operated upon by other surgeons, but subsequently coming under my care. These cases have been selected from quite a number, partly as typical of a class and partly as illustrative of some things I have said, and to serve as a text for a somewhat more minute consideration of the question involved.

CASE I.—A young man, some 21 years old; occupation, farmer; strong physique; vigorous bodily health. Some eleven years before admission was kicked in the head by a vicious horse. He was unconscious many hours after receipt of injury, but gradually rallied and regained consciousness and what appeared to be his normal condition, with the exception that at times he appeared confused, also irritable in temper, and suffered pain in the head. He, however, learned readily at school and in intelligence was up to the average. However, as he advanced in years, mental peculiarities became more prominent and for some time preceding commitment mental disorder was practically continuous and he was subject to periods of active disturbance, maniacal in character, with violent and dangerous tendencies. When he came under my observation his condition much resembled the restless, active stage of certain forms of dementia præcox, with an already marked degree of mental enfeeblement. While restless and mischievous, he was oriented and still had some interest in his affairs and matters generally and could converse quite well for a time. His mental condition rapidly deteriorated and he became careless and untidy about his clothing and in his personal habits, indifferent to matters of ordinary concern, vicious and irresponsive to mental stimulation, and apparently drifting rapidly into terminal dementia. There was a marked depression of skull due to fracture at the site of the old injury in the frontal region. No focal symptoms indicating involvement of the motor zone were present. At the urgent solicitation of the friends, although no promises were made or definite hopes held out, the operation of trephining and

raising the depressed portion of the skull was performed under strictly aseptic conditions. The fractured and depressed bone, an irregularly elliptical segment some 1½ inches wide, beginning just above the middle of right superciliary ridge and extending up and backward over frontal eminence some 3½ inches to the coronal suture and overlying in part first and second frontal convolutions, was elevated. Rough spicular projections into brain and membranes were removed completely and dura mater separated from adhesions. The dura was atrophied and attenuated under depressed spicules and permitted examination of pia mater which seemed rather anemic, but was not extensively coalescent with dura or otherwise markedly abnormal; neither was anything found justifying deeper invasion by knife. The recovery from operation was uneventful and from a surgical standpoint all that could be desired.

And psychically now developed the strange features of this case. Upon the operating table had laid down an appearing terminal dement, uncouth, indifferent to all interests, careless, filthy, untidy, silly in manner, and vacant in expression. Issuing from under the influence of the ether this same patient at once manifested mental changes for the better. His expression was brighter and more animated, he recognized and spoke to his father intelligently, and from day to day thereafter improved mentally, became clearer and more active, neat and orderly about his person, took interest in and conversed rationally on home affairs and general subjects of common concern. In fact, at the end of a month after the operation he was so well and nearly normal in every mode of psychical activity that his friends and all interested rejoiced at his apparent restoration. Had his case been reported at this time, it could justly have been claimed as brilliant an achievement as any of the sensational stories occasionally chronicled in the lay press. But, alas! the high-flying hopes were doomed to be extinguished in bitter disappointment. He gradually grew more confused and listless, careless, disorderly, and by the end of six weeks he was as much demented as before, and so far as I know has remained so ever since. The only difference observable has been that after operation the dementia has not been interrupted by periods of more active disturbance with vicious and destructive tendencies, such as were quite common prior to the operation.

CASE II.—Aged 38; intemperate; formerly a private in the regular service of the U. S. Army. Some years before, during a drunken brawl, he was struck on back part and right side of head by a large stone in the hands of his drunken opponent. Ever since he had been subject to epilepsy and this for some time complicated by insanity. When he came under my care, patient was in strong and vigorous health, but subject to epileptic attacks, coming on at irregular intervals, usually in a series of three or four, with active disturbances during which he was vicious, violent, and homicidal, and withal a dangerous and difficult subject. Then he would ordinarily have an interval of three or four weeks of freedom from convulsion and during this time patient was orderly and industrious, and, since dementia had not progressed extensively, rather a bright and companionable patient, without the irritable epileptic disposition being well marked. He complained, however, of pain in the head and soreness at the seat of the injury in the posterior right parietal region where scars and an irregular large depression in the skull, evidently due to fractured and depressed bone, were very marked. He attributed his strange feelings and distress in the head as well as his epilepsy to this cranial fracture, and he undoubtedly was right in this. He furthermore requested an operation for the relief of this condition, although he had been told that nothing definite could be promised him as to results. Being a man of good intelligence, he concluded to take all risks, since his condition could not be made worse but might perhaps be bettered. An irregular triangular deeply depressed section of bone was raised some 4 inches long by nearly 2½ inches wide, extending from apex near the middle of the right parietal bone near vertex of skull obliquely backward, outward, and downward to base at lambdoid and masto-parietal suture and involving the furrow for the right lateral sinus in part and overlying the occipital cerebral lobe. The meninges were found tightly adherent to fragments of skull projecting downward deeply into the brain, besides the lateral sinus was sacculated and insinuated deeply into cerebral fissure, probably due from pressure by the depressed bone below the dilatation. I may say, parenthetically, patient had no psycho-sensory disturbance, but had complained of strange sensations in the head. The operation wound healed kindly, and the result surgically was satisfactory.

Patient generally improved; became better-natured and less irritable, and the queer feeling in the head which had given him considerable distress before disappeared altogether. No sign of epilepsy was observed either by himself or others for a period of some six months, a longer period than had ever intervened between attacks since receipt of the injury. Patient was in high hopes and exuberant spirits in consequence of what appeared his recovery. One evening, however, he had a well-marked attack of grand mal. The convulsion was not as severe as had formerly been the habit, neither was it followed by mental obscuration and disturbance. He remained under observation a few months longer, doing nicely and having no further recurrence of epilepsy either masked or open. He then passed from my observation by escape and I have no further knowledge of him. Whether he continued to do well, with perhaps further improvement, or whether he again became more epileptic and deteriorated is a matter of conjecture. I fear the latter, on account of his former predilection for alcohol, if for no other reason. Attention may be drawn to a few points in this case. The sacculation of the large vein appeared to enter more deeply into cerebral tissue than any projections of the fractured skull, and in my opinion was the more potent and capable of cerebral irritation, oppression, and disturbance. I think that the disappearance of the "queer feelings" after operation was either really due to removal of the obstruction in the venous channel or removal of pressure from psychic centers of sensation. Again, from the brain region involved one would expect some sensory disturbance or hallucinations; especially in the interpretation of visual, muscular, and common sensations in consciousness, but, although patient was gifted with fair descriptive ability, this could not be made out. The "queer feelings" of which he complained were local and there was no evidence of objective projection. My opinion is that the psycho-sensory centers on the injured side had become functionally inoperative through neglect, and that the corresponding centers on the opposite side compensated. May it not be that these higher psychical centers, like the speech centers, functionate on one side only as a rule?

CASE III.—Aged 20; white; slight in build; in good bodily condition. Patient's father, paternal and maternal grandfathers died of paralysis (apoplexy) and the latter had been a hard

drinker. At age of 8 he sustained a severe injury by being struck on the head by a baseball bat in its descent, after it had been flung by one of his mates as high as possible; he was knocked down, but did not become unconscious. Four years later, at the age of 12, the first epileptic convulsions occurred. (It is said, however, that he had convulsions in infancy attributed to worms.) Three months after the establishment of the epilepsy, during which he had weekly attacks, on the advice of the best medical counsel obtainable in his city, he was operated on by that past master in surgery, the late Dr. Christian Fenger, assisted by the advice of an eminent neurologist. They found some depression of skull at the site of the former injury, namely, one irregularly circular 1½ inches in diameter at juncture of sagittal with coronal suture, and the other of same size and similar shape 2 inches back in sagittal suture near vertex, both over superior longitudinal sinus. Both depressions encroach a little more on right side. The name of the surgeon is guarantee that the work was well done, but both Dr. Fenger and his counsellor gave a guarded prognosis, stating that they were not certain that the operation would relieve the epilepsy. Patient had slight convulsions three months after the operation and then the seizures came on weekly as before. Between attacks he appeared bright enough, was industrious and fond of music. Five years ago, *i. e.*, 3 years after the first epileptic convulsion and 7 years after receipt of the injury, insanity became manifest. He became dull and confused and was strange and irrational for days; conceived strange ideas to which he adhered with stubborn pertinacity, was very irritable, quarrelsome, and disposed to contradict others. If aroused in any way, would fly into a passion and be disposed to assault others with whatever was nearest to his hand; would say strange and uncalled-for things; in fact his conduct, disposition, and general manner has been typical of epileptic insanity. There is evidence that a gradual mental deterioration has been going on as the result of the epileptic condition. Much dementia is now present and evidently increasing. Whatever mentality remains is unstable and either much obscured and dulled or explosive in character.

An undoubtedly well-advised and well-done operation was of no benefit, and the fears expressed in the prognosis were well-

founded. However, it must be borne in mind that the operation was performed four years after the injury was received, and after the epileptic habit had become firmly established. Again, while the injury to the head apparently was the basis of the epilepsy and subsequent insanity, it is not unlikely that the patient was constitutionally predisposed to the disorder. His father and paternal grandfather died of apoplexy; maternal grandfather also died of apoplexy after he had been a hard drinker for years, and we know intemperance favors epilepsy in subsequent generations. The patient himself had some convulsive disorder in early childhood, so that it seems reasonable to surmise an inherited neurotic encumbrance which embarrassed the prospects.

CASE IV.—Age 19. Female. In latter part of August, 1904, attempted to drive across a railroad track in front of a train running at 60 miles an hour. She was struck by the train, carried 1000 yards, and thrown into a ditch at the side of the track. She was picked up unconscious, and consciousness was only partially regained. She was taken to a general hospital, and was then very violent, it requiring the united efforts of two persons to keep her in bed. Her movements were convulsive, pupils contracted, sphincter completely relaxed, cutaneous sensibility and planter reflexes lost. In September, Dr. Fairchild, of Des Moines, assisted by the hospital physicians, trephined, with the expectation of finding fracture of internal plate of cranium at site of injury to head in left parietal region; found none, but found hemorrhage; punctured membrane and put in cat-gut drainage. After operation she began to scream, sphincters closed, but no gain in sensibility (intelligence?) could be noticed. Movements lost convulsive appearance and were apparently influenced by volition; could swallow, but refused food; was fed by tube; would scream for hours at a time.

At time she came under my observation, September 29, 1904, she was in a state of active delirium. She could see and hear, but was utterly confused and deranged and had no conception of her situation or surroundings; at the same time she was extremely restless and agitated, biting and tearing everything she could reach. She made no effort to speak and it was impossible to attract or hold her attention. There was apparently complete disorganization of mentality.

Patient had gained a little physically by October 10, and took nourishment better, but no important change had occurred mentally. She remained much impaired, with greater motor activity, legs were in almost constant motion, so that it was impossible to keep her covered. Pupils were extremely dilated and she now was unable to see; could hear loud sounds; attention could not be attracted; uttered cries similar to cephalic cry, or the cry heard in idiocy. By middle of month improvement had advanced so she could repeat parrot-like a few words, and in another week could speak some and recognized physician and nurses, still repeated words, scanning speech. She maintained that her mother was in Kansas City (mother really was there at time of accident). She had no recollection of the accident. She had still much motor incoordination. She could see, but only indistinctly, and objects appeared double. By the end of October improvement had advanced and she had better control over movements and could stand alone; complained of tingling sensations in extremities, especially on the right side; was brighter and began to relate events of her early life prior to accident and to relearn what she formerly knew.

She continued to gain in every way so that by early December she had become a bright and intelligent young woman, with much brightness and sprightliness of thought, as shown in manner and conversation. Some motor impairment remained at time of parole, January 4, 1905, especially in walking, but she had regained good use of arms and hands. Since she has continued to improve.

In this case operative intervention was justified by signs of compression even in the absence of fracture and well-defined focal symptoms. In my opinion, the mental disorder was due to cortical molecular injury and disturbance by the violence encountered in the accident. No doubt cortical malnutrition by pressure from the clot aided. It is evident from the defined motor symptoms that this influence extended to motor zone in Rolandic fissure.

These few cases mentioned more at length, selected from quite a number coming under my observation, illustrate not only my own experience in cranial surgery, but also that of others in this line of work. I think Dr. Burr's paper, read before the 1903 meeting of the American Medico-Psychological Association, on this subject, corroborates this.

The one lesson I think we can safely derive from this joint experience is the maxim: *Operate early,* before the insane condition has become fully developed and fixed. And a little thought will reveal to us that this position is just and reasonable, and consonant with rational surgical procedure elsewhere than the brain. The disturbing influence of a simple depressed fractured cranial segment is either due to pressure with consequent mechanical anæmia of either the underlying brain tissue, or of the cerebral parts subject to counter pressure elsewhere or to irritation from cranial projections and penetrating spiculæ, or to both causes. In either event we expect a grave disorder, not only functionally, but morphologically. We can justly look for malnutrition from lack of blood in the cortex involved with attendant loss of function in the cortical neurons, with whole groups and constellations of cells inoperative, and the mentality depending on the region defective; moreover, mental processes elsewhere wherein the involved region entered by association, are gravely disturbed. If the basal condition is not soon relieved, degeneration of cell and connecting fiber ensues from disturbance of nutrition and functional disease. The irritating spicula or cranial projection may not only cause mechanical injury by disruption of cortical tissue, but may initiate vasomotor disorder and consequent irregular cerebral vascularization, perverted nutrition with disturbance of function, and, if the disturbance endures, organic changes take place which are perpetuated, and the mental disorder based thereon proves permanent, whether the original cause of irritation is removed by operation or not. Of course, still graver is the situation when cerebral tissue itself is more profoundly involved and gross destructive or disruptive effects have occurred in the brain by the trauma. Here in my opinion early surgical interference is still more urgently indicated for fear of future mental alienation if for no vital reason, provided always that we can improve the existing conditions and leave the parts in a more natural state with less danger from subsequent loss or irritation.

I, personally, have felt reluctant to carry the knife into cerebral tissue in the absence of well-defined indications for it. We cannot hope to leave anything but scar tissue in our wake, which perchance may prove more troublesome in the cerebral system than the resultant of the trauma. Of course, each case must be judged

on its merits, and our actions based thereon. There are usually other vital considerations which may help us to decide. The region of the brain involved will have a bearing. Aside from the uncertain and problematical prospects from operation in cases of long standing, it has occurred to me that the usual technique in the opening and replacement of depressed parts of the cranium may in a measure at least be at fault in the production of unsatisfactory results. And especially is there danger of the formation anew of adhesions about the trephine opening or site of operative procedure, involving the meninges or even perhaps the subjacent cortical tissue, with proliferation of connective tissue, subsequent contraction and disturbance and irritation structurally and functionally of the brain. The marked improvement following operation in Case I, and the mental deterioration soon afterward might be considered as pointing to this. Others have come to the same conclusion. Dr. M. L. Harris discusses this question at length in a paper—Journ. Am. Med. Association, March 19, 1904. Dr. Harris commends sterilized silver foil to prevent adhesions. The foil should be aseptic, free from openings, and its edges extend beyond the limit of adhesions. He prefers a replaceable bone-flap to opening by trephine. Hemorrhage must be checked and clots removed before the foil is gently and smoothly put in place. I consider his views and recommendations sound; at all events, our efforts in the future must be towards the improvement of the mechanical part of the work, in order that we leave the parts in as natural condition as possible, and thus more favorable for healing and the achievement of more perfect results structurally. It goes without saying that the operation should be performed under strictly aseptic conditions only. It would be well-nigh inexcusable to set up a meningitis by infection.

What can we say to friends or patients who urge operative measures for the relief of the insane condition? My practice, in which I am more and more confirmed as time goes on, is this: I tell them freely and frankly in cases of long-standing trouble, and they are usually of this character, that I can promise them nothing, and that the operation itself is grave and not free from risks to life; that if they, however, wish to assume such risks in the hope of possible improvement, I am always ready to operate and do what in my judgment may be deemed necessary, or, if

they prefer some other surgeon, I will have no objections, and will do what I can to further their wishes.

I do not know what more I can say with the present status of the subject. I certainly do not think it right to raise illusive hopes, as is frequently done by members of our profession who are surgeons merely with the *furor secandi* strong upon them.

On the other hand, it must not be overlooked that cases of recovery do occasionally occur after operation; as witness some enumerated in Dr. Burr's list, and a case recently reported by Dr. Hedges in *Medical Record,* January 28, 1905. I am quite certain, however, that these cranial operations are more frequently performed than we suppose, but the results not being satisfactory, are not reported. We can readily expect this, for it is only human to publish our successes and neglect mention of our failures.

The other great surgical field for which psychiatric importance is claimed is that involving the female pelvis and its contents. It is not my purpose to burden these pages with the report of cases or even statistical figures gathered from a rather extensive series operated on either by myself or others, but coming under my immediate care and observation. Suffice it to say that my views touching the subject have quite early crystallized into the following maxims, which are the guides in my practice to-day:

1. Do not expect relief in the mental condition from operative interference, in the absence of actual disease of the pelvic organs requiring surgical aid.

2. In pelvic diseases complicating insanity often much good, in the way of improving general health and comfort and thereby aiding and promoting mental restoration, may be accomplished by less heroic measures than surgical.

3. In the insane, as in the sane, pelvic disease disturbing or impairing patient's health, or even seriously the comfort or threatening life and remediable by surgical intervention only, should receive surgical aid promptly and efficiently.

4. To benefit coming generations, surgical measures to annul procreative power are indicated and justified in certain types of insanity, deficiency and degeneracy depending on an inherited and inheritable constitutional tendency or abnormality.

In amplification of my first proposition, I may say that I am well aware that it is diametrically opposed to the views of some

other and no doubt competent and honest observers. We remember the claims made by some, of brilliant results from operative gynecological work achieved in the cure, or at least great improvement, of the insane. This was some years ago. I do not hear much, if anything, from the field nowadays. Has more recent experience not borne out the earlier claims? I will confess that I was also infected with the enthusiasm then in vogue on this subject, and expected much from oophorectomy and artificial menopause in patients who were more disturbed and the mental disorder aggravated during the menstrual period, but in whom no positive pelvic diseases or organic alteration could be demonstrated. My hopes and labors for relief of the insane condition were in these cases doomed to bitter disappointment. Not that I even now regret the sacrifice of all these ovaries, since in many of these cases whatever good I have done will redound to the welfare of future generations in accordance with proposition 4, and in others there was marked relief of sexual visceral irritation, and no doubt increased comfort to the patient.

Upon due and mature reflection, we cannot reasonably expect recovery or even material amelioration in the mental condition by the forcible ablation of a physiological function, especially when we consider that these people are usually afflicted with dementia præcox or some other form of mental alienation or obliquity depending on blight and structural or molecular changes in the cerebral cortex. There is no achievement without proportional sacrifice, and without doubt the burden of this fell heavily on the female of our species, when man abandoned the horizontal for the perpendicular plane and walked upright in the image of the Deity. Yet, when all is said, there has been an inclination to exaggerate the influence of the genetic function in the life of the woman. With woman in health, the accent lies on the second syllable and not on the first. On the other hand, in actual disease of the generative organs, causing distress, or discomfort merely, the general health suffers and restorative powers are diminished. Even when patient is not conscious of disease, more or less continuous nervous impulses emanate from the site of disease and cause derangement of the nervous mechanism by irregular reflection or they even gravely affect for ill the prevailing states of feeling by the registry of tidings of evil below the threshold of consciousness. All the more

is this true when the pelvic disease is sufficiently grave to cause pain or conscious discomfort. It may then be the locus of irritation which causes or perpetuates insanity, and the latter cannot be relieved until the source of trouble is removed.

That this often may be done by non-operative measures goes without saying. Topical medication, massage, baths, electricity, heat and cold, all have important remedial functions in the treatment of these cases in bringing about secondarily either restoration or great relief in the disordered mental condition. Where, however, the pelvic disease is of such a grave organic character that the aforesaid agencies fail, surgery has a place, and that an exalted place. The insane, as the other citizens of our great country, have the inborn right to liberty and the pursuit of happiness. If this undeniable right can be restored to them by the use of the knife, we are indeed remiss to duty if we do not use it.

Now as to the employment of surgical measures to remove generative power in certain types of mental involution, I would not restrict it to the one sex. But, as Kipling says, " this is another story."

OBSERVATIONS ON SOME RECENT SURGICAL CASES IN THE MANHATTAN STATE HOSPITAL EAST.*

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The question of surgical interference upon persons of unsound mind has always been an interesting and much disputed one, and as the older surgeons taught that an insane person was a very doubtful subject for operation, comparatively few were performed upon persons of this class.

That insanity is a serious and important complication with which the surgeon has to deal cannot be doubted, still the improved facilities and technique of recent years have lessened the dangers to a marked degree, so that even extensive major operations are now performed with very gratifying results, both physical and mental.

Recently in our hospital, under the superintendency of Dr. A. E. Macdonald, several major operations have been performed by Dr. Wm. C. Lusk and Dr. Ramon Guiteras, of the Board of Consultants, with a large percentage of permanent cures and palliative results in most instances.

A preliminary report of a successful operation for the radical cure of prolapse of the rectum of sixteen years' duration in a case of primary dementia was published in the *Medical Record* of June 6, 1903. This operation consisted in anchoring the sigmoid flexure to the anterior abdominal wall (sigmoideopexy). At the time of writing the report only ten weeks had elapsed since the date of operation, and the patient was up and about without any return of the prolapse. The patient now, two years and three months since the operation, is still up and about and there has been no evidence of a recurrence. His physical comfort has been greatly enhanced, and his mental condition is much more cheerful.

* Read at the Sixty-first Annual Meeting of The American Medico-Psychological Association, San Antonio, Texas, April 20, 1905.

Since the above operation, several others have been performed of a similar character with uniformly good results. Reports of the same will probably follow in due course.

The question of hernia is an important one in hospitals for the insane. About one male patient in every eighteen admitted to our hospital suffers from hernia in one form or other and of varying sizes. These cases always tend to become irreducible with consequent danger of strangulation. Treatment by the application of a truss is often unsatisfactory, and in many cases the physical annoyance to the patient from a hernia of long standing, with its tendency to increase in size, is an important feature; and it has been noticed that its presence often aggravates the morbid mental condition.

Several operations have been recently performed at this hospital for the radical cure of inguinal hernia of long standing, some of them of large size. A complete cure resulted in every case; and the marked physical comfort following has been very gratifying; and now, after the lapse of fourteen months, in no instance has there been a recurrence.

The uniform good results obtained in all the cases were, no doubt, largely owing to the special attention paid to the points of technique employed. The operation selected was that practiced and recommended by Bassini.

The average time that the patients were under the anæsthetic was one hour and ten minutes, the operation proper lasting one hour. Following the operation, if the temperature did not rise above 100° F., the wound was not dressed for a week, but in case of a rise of temperature, with continuance above this point, the dressing was removed, the wound opened up and irrigated, and dressed daily until union was complete.

This precaution was observed because the insane frequently have a subnormal temperature when apparently in very fair physical condition, and the febrile reaction after operation is often not attended by such a marked rise of temperature, even when suppuration is present, as is usually observed in cases not the subject of mental derangement.

In one case a hernia into the bladder walls, which is a rare congenital condition, was encountered, but required no special consideration other than a careful dissection of the sac. In every

instance the patient reacted well from the primary effects of the operation, and passed on to recovery without any special incident. Primary union occurred in most of the cases; in the others there was some sloughing of the cellular tissue adjacent. The resultant firm cicatrix following this condition seemed to render the operation more successful, although avoidance of infection and healing by primary union are considered important essentials in the prevention of recurrence.

The shortest time from the date of the operation until the wound was entirely healed was thirteen days, and the longest, thirty-one days, although it was our practice to allow the patient to remain in bed about a week longer in order to secure a firm cicatrix, and facilitate the strengthening of the relaxed abdominal muscles.

The special points of technique employed and which should never be omitted, consisted in anchoring the sac by firm suture to the abdominal wall at the internal abdominal ring, accurate approximation in suturing and thereby lessening tension, careful dissection of the sac, and the avoidance of bruising the tissues during the manipulations.

Authorities on the subject of hernia have stated, that operations may be performed between the ages of four and sixty. Instances have been recorded where the operation has been performed two days after birth, and recently a case has been reported where a successful operation for strangulated hernia was performed under local anæsthesia upon a patient aged ninety-seven.

Among the cases referred to, the youngest was twenty-three and the oldest sixty-three. It is worthy of note that primary union occurred in all the younger cases, and more or less suppuration in those over sixty years of age. This would seem to indicate that advancing age predisposes to suppuration by rendering the tissues more vulnerable to attacks of micro-organisms of suppuration, and as evidences of senility frequently present themselves much earlier in the insane, it is important that this should be borne in mind when recommending insane cases for operation.

That there is always danger of a hernia becoming strangulated was exemplified in a case of chronic mania, a woman, aged thirty-six, who suffered from an umbilical hernia of long stand-

ing. Following a period of excitement the hernia protruded and could not be reduced. Symptoms of strangulation suddenly developed, the prolapse became tense and tender on pressure, pain was constant, and vomiting supervened. Hot compresses applied to the hernia and several enemata of warm water, with a full dose of morphia, relieved the more distressing symptoms, but the patient passed rapidly into a condition of collapse. After a careful examination it was decided to operate at once. The hernia was exposed; the gut, together with a mass of omentum, was found to be strangulated at the edge of the ring. The former was deeply congested and œdematous. This condition was treated by hot compresses about the gut, until the circulation became partially re-established. The mass of œdematous omentum was tied off, the intestine returned to the abdominal cavity, and the operation for radical cure completed.

The operation was long and tedious, lasting two hours and fifteen minutes, but the patient reacted well, and recovered without any special incident. She is now in excellent physical condition, but being a chronic case, there is little change in her mental state. A few hours' delay would have resulted in the death of the patient.

Malignant disease of the testicle presents many points of interest to the surgeon, especially from the standpoint of diagnosis; and as regards the operation of castration, either as a permanent cure or palliative measure. The lack of definite information on the subject tends to increase the interest. Statistics show that the results do not differ materially from those obtained by operation on sane patients; some cases are followed by a permanent cure, in many there is sooner or later a recurrence of the disease; while in others, a very temporary relief is the result. The cases that are likely to recur are those in which there is involvement of the epididymis, with thickening and infiltration of the cord, and those in which the scrotum is adherent.

A case of sarcoma of the testicle, following an attack of urethritis and epididymitis, occurring in a patient, aged twenty-two, convalescing from acute melancholia, presented such striking diagnostic and prognostic features that his history will be briefly cited.

Following the attack of epididymitis the right testicle gradually

increased in size until about three weeks prior to operation, when it somewhat suddenly showed evidences of greater enlargement. It became firmer and heavier; there was some thickening of the cord, attended with increased vascularity of the scrotum and adjacent tissues. There was little pain except when the patient stood for any length of time, and this was always relieved by lying down. The growth was uniform in size and heavy, and there was some enlargement of the lumbar lymphatic glands. The patient showed little evidence of cachexia. About thirty weeks after the testicle first began to enlarge it was decided to operate. The organ was found to be completely infiltrated with the sarcomatous growth and was removed; the cord was much thickened and the scrotum adherent.

The wound healed gradually and the patient returned to his work in the tailors' shop, but about fifteen weeks following the operation it was noticed that at a point about half an inch above where the cord was ligated there was some swelling and tumefaction of the tissues. This gradually increased until the mass became larger and the skin ulcerated. Twenty weeks after the primary operation, a second was performed, which consisted in making an incision to the bottom of the mass and curetting it away, but following this the growth infiltrated rapidly, the patient became emaciated, and died of lobular pneumonia and sapræmia twenty-five weeks after the primary operation.

The second operation was performed simply as a palliative measure, as there could be but little hope of permanent relief unless the secondary growth were located in the scrotum.

In this case the principal diagnostic considerations pointing to its malignancy were: the gradual and uniform enlargement up to a certain point, when there occurred a somewhat sudden increase in size; the firmness and heaviness of the testicle, and the enlargement of the lumbar lymphatic glands. The lack of constant pain, the vascularity of the scrotum, and the late development of cachexia differentiating it from carcinoma.

From the standpoint of prognosis: the history, the involvement of the epididymis with thickening of the cord, and the adhesions to the scrotum were the important features that pointed to a recurrence.

The results in this case did not differ materially from those

often experienced. As a palliative measure the operation would seem to be justified as a period of fifteen weeks passed, during which the patient was comparatively comfortable, and without operation it is probable he would not have lived so long, although from studying such a case the malignancy of certain neoplasms of the testicle is forcibly demonstrated and better appreciation had of the axiom handed down by the older surgeons to the effect that the patient who refused operation survived the castrated one.

The boundary line between operable and inoperable cases is from time to time the subject of discussion, and it still remains an open question whether some of the operations performed for the prolongation of life in cases of malignant disease were justified; on the other hand, it is quite probable that palliative procedures might oftener be resorted to.

Reports have been made of inoperable cases of malignant disease of the uterus where the internal iliac arteries have been ligated with prolongation of the patient's life. The external carotids have been bilaterally tied in cases where the neoplasm was nourished by these vessels. The common carotid has also been ligated, but the effect of such a procedure upon the cerebral circulation renders it a serious undertaking.

In one instance in our hospital the latter operation was performed for an inoperable sarcoma of the face of enormous size, originating from the infraorbital region. The patient was a case of dementia secondary to chronic melancholia; aged sixty years. He had been insane twenty-seven years. The growth had existed for about nine months but grew very rapidly, and at the time of operation was undergoing extensive ulceration. The operation consisted in ligating the artery just below the bifurcation in the triangle of election. The occurrence of troublesome hæmorrhage from some of the smaller vessels beneath the angle of the jaw caused some delay, so that the operation lasted two hours.

The patient, however, reacted well from the anæsthetic, partook freely of nourishment, and for a time seemed brighter mentally than for some months previous; but died of lobular pneumonia on the third day following operation. The patient lived too short a time for any definite opinion as to the general advantages of the procedure to be determined. The effects, however, upon the growth for the time were marked; the ulceration dimin-

ished, and the neoplasm lost to a pronounced degree its turgid and angry appearance. The operation in similar, but more favorable cases, would seem to be a valuable palliative measure.

The operation of trephining is an ancient one and has been handed down by the Fathers of Medicine. Skulls have been found in excavations which show that savage tribes performed the operation with considerable skill.

At one time the operation was done by enthusiastic operators who paid but little attention to indications or focal symptoms, but at the present time a more conservative view is taken and the operation is not performed unless either evidences of compression exist, or the focal symptoms localize the lesion. Surgical operations upon the cranial cavity of the insane have always been absorbing in their interest; and some authors quote figures which attribute alleviation of the mental condition, in a large percentage of cases, entirely to the operation; such figures are misleading, as in the acute or recoverable forms of insanity a large percentage of cases pass on to recovery during the first year who have not been operative subjects. However, when an operation, and particularly one on the cranial cavity, has been performed upon a patient who has been insane over three years (the limit after which alienists agree that recovery rarely occurs), and the operation is a success from the surgical standpoint, and is also followed by an improvement in the mental condition, the subject is approached with more than usual interest. The following case is illustrative:

A male patient, aged forty-two, who suffered from melancholia of four years' duration, which developed after operation for appendicitis and appendicular abscess followed by post operative peritonitis. His insanity was of the suicidal type, with impulsive tendencies, and hallucinations of sight and hearing, followed by suspicion and hypochondriasis.

About December 1, 1903, he was noticed to be gradually failing mentally, was dull and confused, complained that he could not read the paper as well as formerly, that the letters seemed blurred; was unable to swallow properly, owing to the loss of power in the muscles of the throat, saliva dribbled from his mouth, and his speech became inarticulate.

January 7, 1904, he suddenly became excited, rushed about the

ward, talked in a rambling and exalted strain, said that he was the strongest man in the world, and claimed to have an inspiration from God. Was placed in bed, but turned the bedding upside down, and threw the bed clothes on the floor.

This excitement continued until January 10, 1904, when at 10.15 a. m., he was seized with an epileptiform convulsion, confined to the left side of the body. At 3.45 p. m., he got out of bed and stood up, when he was again suddenly seized with a convulsion, and falling forward to the floor, struck the frontal region of his head on the left side above the eye. When replaced in bed his pulse was slow and full, rate 70, and he was unconscious.

January 10, 7.00 p. m., still unconscious, eyes drawn to the right, pupils widely dilated, temperature 98.6°, pulse 70, respiration 22.

January 11, 9.00 a. m., temperature 98.6°, pulse 92, respiration 23; still unconscious; very restless, especially so when the seat of injury is pressed upon. Pupils dilated and do not react to ordinary light, eye balls drawn to right, shows marked muscular resistance, cannot be induced to protrude his tongue, no embarrassment of respiration, bowels moved involuntarily four times during the night, passed an enormous quantity of urine involuntarily.

January 11, 11.00 a. m., patient winces and partly rouses up when seat of injury is pressed upon, occasionally draws up his legs, rubs his head with his hands, at times groans, champs his teeth, answers yes or no only when roused by shouting in his ear. Passes urine and fæces involuntarily, sleeps heavily, pupils dilated and only react upon strongly transmitted light, is apparently deaf, and is unable to extend his limbs without pain, reflexes markedly exaggerated, suffers from choked disc.

January 12, patient remains in much the same condition, except that he cannot be roused by shouting in his ear; his breathing is stertorous.

It was recommended to operate at once by trephining over the area of injury, as it was possible that a depressed fracture existed, although the gradual development of the symptoms pointed to a condition of cerebral pressure from increased intracranial

CEREBRAL PRESSURE
(prior to operation)

CEREBRAL PRESSURE
(following operation)

SARCOMA OF THE FACE

tension, rather than to cerebral compression from a depressed fracture.

Patient was anæsthetized; the trephine was applied just above the seat of injury, and a button of bone removed. The tissues were found to be the seat of a hæmatoma, but no fracture existed. Immediately upon removing the button of bone it was noticed that the dura bulged into the opening from the intracranial pressure. The dura was then incised, which was followed by the escape of about six drachms of clear fluid.

Several layers of gauze were then introduced beneath the dura, and allowed to remain in as drainage, the periosteum being brought together over the drain by means of a continuous cat-gut suture. The wound was dressed, and the gauze drain allowed to remain for twenty-four hours.

Following the operation the temperature rose to 99.$\frac{4}{5}$°, pulse 72, respiration 20; after this the temperature approached the normal, and continued in this way until recovery was complete.

After reacting from the anæsthetic, the patient spoke a few words, but was restless and confused for three or four days, when he began to realize his surroundings, and recognize those about him. He gradually improved until January 24, when he had a general convulsive seizure, which was attributable to reflex causes, he being constipated and having eaten too heartily, with a brain in a hyper-sensitive condition.

Following this, upon one occasion, he complained of pain in the forehead, radiating down the left arm, which was relieved by a dose of anti-pyrin and sodium bromide. For some weeks following the operation he continued in a hyper-sensitive and hypochondriacal condition, but gradually and progressively improved; took notice of everything going on about him, kept himself well posted on current events, became cheerful, good natured, would recall his feelings prior to the operation, and described them accurately. Had no more depressed periods, suicidal impulses, or convulsions; gained in weight, anæmia disappeared, conversed readily, spoke distinctly, eye sight good, no blurring of the letters, swallowed readily, suffered no pain in the head, and made a complete recovery both mentally and physically.

It is interesting to note that the embarrassed breathing continued during the operation until the dura was incised and the

effusion allowed to escape, almost immediately the stertor ceased, the respiration assumed a regular rhythm, and the pulse became steadier. This was in accordance with observations and experiments, for it has been shown by recent observers, that as long as the vasomotor system maintains the blood pressure at a higher level than the intracranial pressure, the respiratory center will be nourished and perform its function. If the blood pressure falls below the intracranial pressure the function of the respiratory center will be interfered with, and rapid cardiac action and low blood pressure ensue.

The development of the period of excitement with exaltation, attended by cerebral symptoms and followed by convulsions, brought up the question of diagnosis of the mental state. Had we to do with a case of paresis? The previous history of absence of somatic symptoms and the rapid development of pressure symptoms, as compared with those of paresis, were the determining factors in the diagnosis.

The occurrence of the epileptiform seizure following the operation suggested the possibility of the existence of epilepsy, but this was rendered extremely improbable by a careful inquiry which demonstrated the absence of previous seizures. The development and final outcome of the case warranted the diagnosis of increased intracranial pressure due to causes operating from within the cranial cavity.

It is not the object of this paper to discuss the pathogenesis of intracranial effusions, but when we bear in mind that the pia-arachnoid membrane is serous in character, being covered on its outer surface by endothelium; that it is the disposition of morbid processes, as shown by numerous autopsy findings, to affect similar structures throughout the body, and that the patient for a considerable period suffered from post-operative peritonitis, it is not improbable that the same infection which involved the peritoneum also attacked the pia-arachnoid, inducing hyperæmia in that structure, which was subsequently followed by the accumulation of serous fluid. The involvement of serous structures following general systemic infections is a line of investigation from which much has yet to be heard.

Although in operations upon the insane many difficulties are encountered not experienced in dealing with cases of sound mind,

particularly in the line of profound exhaustive states, early senile changes, and more requisite watchful care in the after-dressing and treatment, yet the results obtained fully demonstrate that surgery, in carefully selected cases, is one of the valuable means at our command for the alleviation of physical suffering, and, in many instances, if judiciously employed, will also be attended by an amelioration of the mental state.

Clinical Psychiatry.

THE MAKING OF PSYCHIATRIC RECORDS.

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I.

It would seem almost a thankless task to discuss the subject of history-taking, of the examination of patients, and of the keeping of psychiatric records, and yet there are several reasons why such a discussion may not be without value, especially in view of establishing a department of Clinical Psychiatry in this JOURNAL. It is not the aim of this paper to suggest a programme or to present anything particularly new, but merely to recall as emphatically as possible a few familiar and self-evident facts which are often enough neglected in practice,—perhaps because of their very familiarity and obviousness. Every year a large amount of valuable clinical material is lost, particularly, it would seem, in America and England, because of the relatively small number of men in psychiatry, who give themselves the trouble to make observations which are on a level with those of their colleagues in other departments of medicine, and of the still smaller number who make records of their observations which are worthy to be preserved.

Naturally a great part of the work connected with the making of histories falls upon the younger men of the service. In their medical school or general hospital careers, the importance of detailed anamnesis and examination was duly emphasised and they were armed with rational methods of observation of physical disease. How sadly incomparable and inadequate are oftentimes the instruction and methods which are furnished to those who later come for their special work to hospitals for mental diseases!

Insanity in any form is to be reckoned with the severest diseases to which man is subject, it is apparently increasing in most civilised countries, in medicine there is no subject which demands more careful study, and yet it has always been and still remains the subject about which least is known. The very facts of the difficulty of the task and of the relatively little which is actually

known should only stimulate to a more conscientious, deeply painstaking interest, and not to a satisfied apathy or *laissez-faire.*

It is with the hope that in reviewing a more or less familiar topic some points may nevertheless appear which will prove suggestive to some brother who is putting together his first psychiatric records, that these pages are written.

A casual perusal of the clinical history of a mental case selected at random, gives one as a rule one of three impressions.

(1) One feels that the writer has set down one after another a lot of isolated facts and symptoms without synthesis or analysis; he has given a superficial recital of events without drawing conclusions and has left a weak and anæmic record from which it is impossible for any one else to form an idea as to the nature of the case.

(2) In a second history one is at once conscious that the author has approached the case with a strong *idée préconçue,* and has more or less moulded the elements of history and examination to fit the disease-picture which he has unconsciously started out by assuming, rightly or wrongly, that the case presents. In this instance one has no trouble in following the deductions of the history writer, but one is troubled by the question,—Would possibly a second observer with a different *idée préconçue* have constructed from the case with equal facility quite a different clinical picture?

(3) Finally one reads a history in which it is apparent that the author has attempted to approach the case with a virgin mind, and has tried to construct a synthetic history of a group of morbid phenomena, their relations and significance. He has endeavored to show in what manner and degree the diseased psyche departs from the individual norm, and has drawn up his premises, so that the conclusion, if a conclusion be possible, will rather deduce itself, as a result of the comparative and adequate valuation of the clinical signs as they present.

The histories which give rise to the third impression just described, are unfortunately in the minority.

II.

A fixed idea with which many men begin their history writing is that the prime aim and object of the history is to establish a

diagnosis, to give a *name* to the disease, which is supposed to contribute something to the knowledge of the condition. This is an idea which must, on general principles, be combated. The fight from the beginning in psychiatry has been over names and classifications. Let us notice for a moment some of the results to which this conflict has led.

For 6000 years the tripartite symptomatologic classification—*Melancholia—Mania—Dementia,* based upon the most superficial of observed facts—has served as the groundwork for the study of mental diseases. Each of these terms by common acceptance represents at present a more or less definite external disease-picture, each one differing conspicuously from the others; and yet if one follows these names through the classifications from early to late, one finds that not only to each one have the most divergent meanings been attached by different men or at different times, but that cases described by one observer as mania have been classified by another as melancholia and *vice-versa.* If one could collect together all the cases that were ever described under mania or melancholia,—and such an assemblage would embrace practically the entire psychiatric gamut,—and should then attempt to separate them into two distinct groups under their respective labels, the attempt would be found to be utterly futile, as the two groups would encroach upon each other at every step.

This confusion of meanings and names is conceivable when it is remembered that all the ancient names and terms used to designate forms of alienation, meant at bottom, one and the same thing, namely "madness," thus:

Μανία = ***madness.***

Μελαγχολία (etymologically, atrabilious insanity) = ***madness.***

Dementia = (literally) ***madness.***

Παράνοια = ***madness.***

It might indeed well be possible to find one and the same condition described by different observers or at different times under all of the above heads.

To HIPPOCRATES is generally attributed the distinction between *Mania,* the insanity of fury and violence, and *Melancholia,* the insanity of sadness and fear.

ARETAEUS took quite a different view-point and introduced the distinction between *general insanity* (mania) and *partial insanity*

with fixed ideas (melancholia),—a distinction which has survived until far into the past century, and is even noticeable among present-day writers. Melancholia might thus be conceived from two more or less opposing standpoints. On the one hand it was a morbid state with affect depression,—a psychosis defined *qualitatively;* on the other hand it was a morbid state of a certain degree, involving certain of the mental faculties and leaving others intact,—a psychosis defined *quantitatively.*

From this double standpoint, confusion was bound to arise. SAUVAGES adopted the distinction between partial and general insanity, but retained also the older view of melancholia as the psychosis of sadness, and of mania as the psychosis of fury.

CHIARURGI defined melancholia as partial madness, and mania as general madness without specific reference to the affect state. In his classification were to be found therefore, gay and exalted as well as depressed forms of melancholia, the one criterion of the malady being the presence of fixed ideas.

ESQUIROL attempted to bring order out of chaos by subdividing the original melancholia and making two new groups, to each of which he gave a new name. Thus under *Lypemania* he included the cases of partial insanity with affect depression, while the remainder of the group was denominated *Monomania,* the insanity of fixed ideas.

With FALRET, finally, the Lypemania of ESQUIROL became *Melancholie triste,* and Monomania became *Melancholie gaie,* the word melancholia again losing all specificity of meaning as regarded the affect-tone.

Another instance of the frailty of names is seen in tracing the fortunes of the *Confusion Mentale* of current French authors. This disease-picture, which is the natural successor of the *Démence aiguë* of ESQUIROL and the *Stupidité* of GEORGET, has very wide and very uncertain nosologic relations. Under *Stupidité,* GEORGET had described cases which belonged to PINEL'S acquired and recoverable *Idiotisme.* BAILLARGER also gave a clinical picture of *Stupidité,* which he however separated entirely from the acquired idiocy of PINEL and the acute dementia of ESQUIROL and placed under Lypemania or *Melancholie triste* as a sub-group, representing the extreme stage of the psychosis. Here it enters into close relations with the *Melancholia attonita* or Melancholia *cum Stupore* of other authors.

It will be seen that *Confusion Mentale* in its widest definition may comprise a good number of conditions described under a variety of names. CHASLIN in his monograph on the disease,[1] mentions over forty more or less synonymous terms, and the blood relations of the disease extend even outside of these. On the one hand we find the condition described as an independent disease representing a type of insanity,—on the other, as a symptom pure and simple which may complicate various psychoses. It has been described as a form of idiocy, as a form of dementia, as a form of melancholia, as a form of mania, and as a form of paranoia. In some of its phases it enters into relations with the so-called *Circular Stupor* of KRAEPELIN, in others with the *Amentia* of MEYNERT and the *Katatonia* of KAHLBAUM, with *Delirium acutum,* with the various febrile or intoxication deliria, with the syndrome of KORSAKOW.

All these observations, which might be extended indefinitely, merely go to show that names often stand for little in indicating the nature of a morbid condition, its place in the nosographic scheme, its relations and its prognosis. Not only has one name often done service for conditions totally unrelated, but conditions identical or similar have been separated widely in classification schemes under independent and distinct names. This has always been, in the nature of the case, unavoidable, considering the fluid state of psychiatric knowledge, and this very fact suggests the danger of adhering to a fixed scheme of mental diseases in which names are allowed consciously or unconsciously to take the place of accurate descriptions of the pathologic states.

Another danger of new names and new descriptions, inherent not necessarily in the names and descriptions themselves, but rather due to a lack of critical judgment on the part of many who make haste to enter *le mouvement* and adopt the new names and classifications, has been referred to recently in another place[2] in connection with the discussion of the rise of Dementia präcox.

Undoubtedly the safest standpoint yet adopted by an alienist is that of WERNICKE, who refused to attempt to describe a series of individual mental diseases, and gave in their places master

[1] La Confusion Mentale Primitive. Paris, 1895.

[2] "Dementia präcox in France, etc." American Jour. of Insan., Oct. 1905.

psychologic-symptomatologic analyses of various abnormal psychic states, leaving the question of the strict delimitation and classification of disease-entities for a later and more complete psychiatry than the present to decide.

If summary descriptions of disease states, based upon as deep a penetration as possible into the actual nature of the morbid process, could supplant the usual names of current terminology altogether, psychiatry would everywhere rise to a very different plane from that which it still too commonly occupies.

The fact that in many instances scarcely two men attach exactly the same significance to a term, should warn against the careless use of diagnostic names.

Someone, for example, asks the hospital physician regarding the outlook for a certain patient, and the physician perhaps replies that the patient is demented and his condition therefore hopeless. "Indeed," replies the questioner, "Dr. K. also stated that the patient was suffering from dementia, but expressed the belief that recovery might take place." This confusion arises from the fact that the idea of an acute recoverable dementia has not yet completely died out, and the term having in itself no specific meaning, has thus been misapplied to two conditions externally somewhat similar, but of fundamentally different nature and widely divergent prognosis.

Again, to say without qualifying the statement, that a patient has paranoia, is to convey absolutely no information as to the real character of the patient's affliction or of his outlook. In a recent actual case a prominent specialist in nervous and mental diseases made a diagnosis of paranoia and gave a favorable prognosis. A second alienist with an essentially different conception of the disease, declared that "paranoia with good prognosis" is a contradiction of terms. Here again is a confusion due to the use of the same term by different authors to cover widely different conditions.

ZIEHEN describes ten kinds of Paranoia,—

(1) Acute hallucinatory Paranoia (Amentia).
(2) Peracute hallucinatory Paranoia (Delirium tremens).
(3) Chronic hallucinatory Paranoia.
(4) Acute simple Paranoia.
(5) Chronic simple Paranoia.

(6) Secondary hallucinatory Paranoia.
(7) Postneurasthenic hypochondriacal Paranoia.
(8) Postmelancholiac hypochondriacal Paranoia.
(9) Periodic Paranoia.
(10) Circular Paranoia.

together with various sub-varieties. Under Chronic hallucinatory Paranoia, for example, he mentions

(a) Chronic epileptic Paranoia.
(b) Chronic hysterical hallucinatory Paranoia.
(c) Alcoholic chronic hallucinatory Paranoia.
(d) Chronic katatonic hallucinatory Paranoia.
(e) Chronic hypochondriacal hallucinatory Paranoia.
(f) Chronic confabulatory hallucinatory Paranoia.

In this assemblage are to be found conditions the most diverse from all points of view,—etiology, course of the disease, termination, morbid anatomy.

KRAEPELIN, on the contrary, considers Paranoia as a single circumscribed disease of uniform nature, course and event.

Which of these views is the safer and saner, is self-evident.

The object then in recording a patient's history should not be to describe a cut-and-dried disease-picture made up of such and such stereotyped symptoms, to which a definite and final name can be assigned, but rather to furnish as complete a psychic biography of the individual as possible, setting forth the manner and degree in which the diseased psyche departs from the normal for the individual.

This suggests the two prime aspects of the history which should be attended to with equal impartiality and minuteness:

(1) The patient's past, including his family tree.
(2) The patient's present.

III.

No one questions that a complete account of the patient's past is of the first importance in estimating his present, and it was a pat observation of the first American alienist[1] that "the ravings of mad people, for the most part, accord with their habitual tempers and dispositions." Obviously the previous history is of

[1] RUSH, Diseases of the Mind, 1812.

far greater moment in mental cases than it usually is with patients with the so-called medical or surgical diseases, and yet how often is this part of the record dismissed with a few totally inadequate generalisations! The first question that should present itself in dealing with an insane patient is, "What manner of man is he?" What was the norm of the individual during health? What was he as a social, as a business, as a domestic element? What were his aims and ambitions, his dreams and hobbies? What was his manner of work and play? What in his view was the chief end of man? What were his code of ethics, his laws of conduct, his religion, his superstitions, his hopes and fears, his loves and hates? To answer these questions and thereby get an approximate conception of the individual psyche during health, it is necessary that the alienist have at command all the facts that are usually laid before lawyer, doctor, and priest,—particularly the latter.

To get these facts the only satisfactory method is the personal interview, not with one but with several of the patient's relatives and friends, *separately*. In inquiring into the question of heredity, one cannot go too scrupulously into details. So far as possible the family tree should be reconstructed and psychopathic matter sought in each member in turn. General questions and general answers are worthless. If one asks, "Is there any insanity in the family?" too often a monosyllabic negative is the prompt reply, and to regard the matter as thereby settled would in nine cases out of ten be wrong.

There are at least two conspicuous reasons for this. In the first place, any one who has tried to do his duty in anamnesis writing knows how strong is the tendency on the part of relatives, unconsciously, or indeed consciously and intentionally to depreciate or attempt to explain away pathologic elements in the family history, if not to suppress them bodily. This is a source of error which the most patient insistance is required to eliminate. It is common enough after the most pains-taking history has been written in which each of the patient's relatives is asked about in order, to learn subsequently through the casual remark of some friend or relative other than the one who furnished the original history, of distinct psychopathic traits or actual attacks of alienation in the family, which had been quite unsuspected, not having been reported, or perhaps having been expressly denied.

The second point concerns the universal misconception among the laity of what is meant by insanity. For the average layman, only a *maniacus furiosus* is insane. An individual may have had "fits of blues," may have been "downhearted for a few months," he may have been "a bit suspicious," he may even have suffered with "queer hallucinations." All this the friends may admit in furnishing the patient's previous history or facts concerning any of his relatives; "but" they hasten to add, "he was never out of his mind, he was not insane."

Undoubtedly a large question mark is indicated after most of the negative statements in family histories as usually supplied.

If the facts are being given by one of the patient's relatives, particularly by a member of his immediate family, notes should be made of the general mental status of the informant while the anamnesis is being taken, and these notes should be entered in the family history. Not only is the observer thereby enabled to form some judgment of the trustworthiness of the information which has been given him, but he also has some positive observations which may possibly have a direct bearing upon the question of heredity. Likewise in any subsequent interview with relatives, any psychic abnormalities or peculiarities in these persons should be noted. With these should be included any eccentricities of attire, peculiarities in speech and handwriting, a tendency to unusual attitudes or movements, the presence of tics, as well as any physical stigmata. It should be a rule to enter in the history the name and relationship to the patient of the person who furnishes the information. In the family tree, names should be recorded as far as possible. The character of the given names often furnishes interesting clues as to inherent family traits. In one case in which no family peculiarities were recorded, the patient had nevertheless been damned with the name "Xantippe." In another case recently under observation, in which likewise no mental anomalies were reported in the family history, the patient, a girl, whose birth had occurred on the fourth of July, had been launched into life labelled "Independence Day Smith!"

In all psychiatric records, the one requisite upon which too much emphasis cannot be laid is *accuracy*. There is only one man who is in a position to judge between truth and fiction in a patient's history. He is the man who obtains the information

and records it, and he should be on his utmost guard to avoid putting down anything of which he is not reasonably sure. Insistance upon this point would seem superfluous, and yet the danger of serious error from its neglect is brought strongly home in finding how often different members of a patient's family furnish accounts which are widely divergent, even directly contradictory.

A word may here be said about printed forms containing lists of stereotyped questions, such as are sometimes used in taking histories. There is only one occasion in which such a document has any excuse for its existence, and that is when a personal interview is absolutely impossible, and the history must be obtained through correspondence. Experience has shown, however, that the correspondence method is about as satisfactory as acquiring a college education by mail. It should never be allowed to take the place of a personal questioning and cross-questioning. A list of questions cannot be printed which will fit all cases, or which will indeed fit any one given unknown case. Moreover in the presence of a set of specific questions, the informant, who is often anxious to make his replies as brief as possible, omits features of importance not directly suggested by the printed questions, which might have been brought out in a face-to-face interview. Here again the danger of misinterpretation, of the failure to understand what is wanted, and of furnishing inaccurate or spurious information even with the best intention, is a heavy argument against putting trust in printed forms. Answers to questions as to the presence or absence of hallucinations, for example, are often quite unreliable. Even the family physician sometimes testifies in the committment papers to the presence of hallucinations in cases where the most careful inquiry fails to bring forth any evidence that hallucinations are or ever were present. It is doubtless true that the occurrence of true hallucinations is less frequent than is commonly believed in many forms of mental disease.

IV.

It is essential that the patient's history should be recorded in narrative form. It should read, not like an application for life insurance, with isolated disconnected facts, but as a continuous

story with its several chapters corresponding with the epochs and crises in life,—a real psychiatric tragedy, comedy, or romance as the case may be.

Beginning ten lunar months *ante natum*, the record should deal with the circumstances of gestation and birth; the first year's nutrition and development; the period of childhood with its accidents; the school age, its characteristics and duration; the details of the puberal epoch, particularly in girls, and of the menstrual history; the period of youth, its ambitions, accomplishments, tendencies, excesses; the marital stage, the conjugal and parental disposition; the climacteric epoch in both sexes, its nature and duration.

All this can be put down accurately and completely without making the record too bulky. All important events should have their exact dates, and it should be possible at any time to learn from the history, what and where the patient was at any given period of his life.

For the recording of these events the use of a stereotyped printed form is pernicious. To write an intelligent psychiatric history, one must first have clearly in mind what the contents of an ideal history are; he must also have in mind in order the general and specific questions which must be asked in order to develop such a history; he must in the third place be able to vary and supplement these questions to fit not only the individual patient, but what is quite as neccessary, to fit the individual informant.

If one has not this general scheme in mind and at command, and must trust to the suggestions of a list of printed questions to be applied indiscriminately to all cases, his histories will be artificial and forced, will lack individuality, will fail to distinguish in each case clearly between essential and secondary facts, will be monotonous, non-sequent, disoriented, and will rarely furnish a convincing demonstration of the real nature of the case in hand. Such histories are better unwritten.

The danger of drawing erroneous conclusions from insufficient premises is considerable when dealing with the general character and disposition of the individual. Summary characterisations which relatives, particularly mothers and wives of patients furnish, are often pretty wide of the mark, and one cannot be too careful to avoid recording as facts what may be only prejudiced

opinion, or injudicial estimation of accidental or transitory conditions.

V.

Having made up accurately, consecutively and with sufficient completeness the patient's life history, the comparison remains to be drawn between his past and present,—to describe the series of alterations which the diseased psyche presents. This comparison should be calculated to answer the following questions:

(1) Are the symptoms which characterise the psychosis simply quantitative modifications of normal elements in the individual personality?

(2) Are they recrudescences of early or latent individual characteristics, or of atavistic traits?

(3) Are they, finally, utterly new and foreign phenomena, unrelated both to the patient's inherited and to his individual past?

Careful attention to these points, it is needless to say, may carry with it prognostic indications of no small value.

The first chapter in the story of the present illness, deals naturally with the *onset*, the subject in all the history of the disease, the most important, and yet often the most neglected.

The *date of onset* is always particularly difficult to establish. This is because of the fact that prodromal symptoms, especially if, as is so often the case, they be predominatingly physical, are not associated by the patient's friends with the developing psychosis. Even early psychic manifestations which the alienist recognises at once as belonging to the disease-picture are commonly passed over in silence, and the malady is assumed to have begun only with the appearance of acute or exaggerated symptoms which may have brought the patient into conflict with the laws of the land, the unwritten statutes of social intercourse, or the necessary regulations of domestic life.

The date of onset as usually furnished is therefore in practically every case wrong, and represents not the actual beginning of the disease, but the time when the patient became so insane that a layman could make the diagnosis.

Early physical symptoms should receive the most careful attention, and in inquiring into these there are certain specific questions which should never be omitted. These relate to:

(1) The general state of *nutrition* during health, as compared with recent and present conditions. What was the patient's best normal *weight*, with date? Has there been loss or gain in weight in connection with the present illness, and if so, what is the duration of the change? Has loss in weight been associated with loss in strength? Has loss or gain in weight been associated with changes in appetite and the amount of food ingested? Have weight changes been associated with differences in the amount of energy expended in mental or physical activity, or differences in the amount of sleep obtained?

(2) Was *headache* a prominent early symptom? Its character, duration, and possible association with other symptoms, particularly loss of sleep or gastro-intestinal disturbances? The occurrence or absence of severe headache is not infrequently an important differential-diagnostic index.

(3) Condition of the *bowels*. Here as a rule the question should not be,—Has the patient been constipated?—but rather,—How long has he been constipated? What has been the average interval between movements? Has the condition grown worse of late? What was the longest interval? By making these specific inquiries a state of affairs is often disclosed which would never be suspected if one were satisfied with the simple affirmative answer to the general question,—Has constipation been present?

(4) What have been the conditions of *sleep* as compared with the patient's normal habits? Average number of hours in health? Recent changes in the amount and depth of sleep, with dates? Variations in the tendency to dream? Content of dreams? Relation of dreams to expressed thoughts or acts of the patient which constitute symptoms of his alienation?

(5) The *menstrual function* in female patients, occurrence of irregularities, their character and dates? Recent state of menstruation and date of last period? Association of exaggerated mental symptoms with menstrual periods? Relation between intensity of mental manifestations and irregularity of the menstrual function? Occurrence of psychic phenomena replacing omitted periods? These questions should be asked in detail so as to afford an approximate idea of the character of the menstrual curve, continued directly from health into the developing psychosis. This item alone, distinguishing between *omission* of

periods and marked *irregularity* in interval and amount, often furnishes valuable indications as to the nature of the psychosis.

If it is difficult to obtain a clear history of the prodromal physical symptoms, it is even more difficult to get a trustworthy account of the early psychic manifestations. The spontaneous information which the patient's friends may give will rarely contain the actual initial mental symptoms, and these must be sought with particular patience and persistence. One should conduct the inquiry with the same object in view and with the same care as when making a personal mental examination of the patient, the object being to reconstruct the initial disease-picture so that with it may be compared in a maximum number of points the present tableau. That our histories so seldom meet this requirement is not altogether, or perhaps indeed chiefly, the fault of the man who writes them. Often the persons who supply the information paid little attention to the earliest symptoms, attached no importance to them, or failed to recognise them altogether. Moreover having made no mental or other memoranda, they recollect imperfectly, distort and misplace events, and furnish a fragmentary and uncertain record. These difficulties are hardly, sometimes impossibly, to be overcome. Their existence, however, calls for the more conscientious effort on the part of the history writer.

Above all things hackneyed expressions should be avoided. They are not only for the most part useless, but often misleading. Careful descriptions should take their place. In a dozen histories where this rule has been neglected, it may be absolutely impossible to obtain from the record of the onset any hint which would serve to differentiate one psychosis from another. How much differential information does it convey to say that the patient was "excitable," "nervous," "talkative," "restless," "irritable," "obstinate," etc., etc.? All these symptoms may be present in mania, in melancholia, in paresis, in hysteria, in dementia prăcox, in alcoholism and in Heaven knows how many other conditions. Their mere recital may seem adequate to the lay informant; they do not however, constitute a psychiatric record.

I am aware that all this would seem like a waste of words in demonstrating the obvious. It is nevertheless too true that the obvious is often that which most needs demonstration.

VI.

The onset of the psychosis having been disposed of, its *course* is next to be recounted, separating it into *stages*, if these have clearly existed (being careful not to suggest them), and describing each in turn with its date, duration, and complex of symptoms. The description, just as the previous life-history, should not be a bare recital of disconnected events, but should take the narative form, in which incidents succeed each other in natural order without hiatus, particular attention being given to the laws of association, sequence, and of cause and effect. Often enough one reads in histories of acts or verbal expressions of patients which are utterly unintelligible, and which are simply set down as "insane ideas." Insane they may be, and yet their genesis, had the inquiry been carried further, might not infrequently be traced to the page of a romance, a dream experience, a conversation overheard, an incident witnessed, some actual occurrence which to the casual observer might seem too trifling to deserve notice.

The *order of succession* of symptoms, their appearance and disappearance, will in many cases become hopelessly tangled unless special attention is devoted to keeping it straight. If one follows the hasty narration of the informant, one will often have the events of yesterday violently juxtaposed to those of months or years ago.

Further in the recounting of morbid states, it cannot be too much insisted that abbreviated diagnostic and snap-terms should be avoided unless immediately accompanied by adequate descriptions of the conditions they are intended to cover. The psychiatric terminology in common use is still too vague, its names are too often misinterpreted, to make it safe to waive this rule. Given, e.g., two histories by different men, in each of which the patient is said to have shown "Negativism", unless we are acquainted with the clinical training and acumen of the two observers, we have no assurance that the symptom to which they have given a single name was identical in the two patients. No safe comparison could therefore be drawn between the two cases, whereas, had each observer fully described the condition to which he referred, they would have become directly comparable and it could have been

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easily established whether or not the so-called negativism was similar in both. It is only by this method that careful analysis and differentiation are possible.

VII.

We come now to the personal interview with the patient, the examination and recording of his present condition. Here, more than in any other part of the psychiatric record does the individuality of the observer find expression,—and this is right. It should not be attempted to make all conform to a cut-and-dried scheme of examination. Certain fundamental principles must of course be recognised, but beyond these, every careful clinician will consciously or unconsciously evolve his own method of approaching and examining a patient, and by it he is likely to get more out of the case than if he adopted ready-made the method of some one else.

In making an examination there are three prime requisites—

(1) To observe minutely.

(2) To interpret correctly.

(3) To record accurately.

This implies that the record must not only serve to recall vividly to the observer at any subsequent time the disease-picture which the patient presented when the examination was made, but it must also be to such an extent appreciable to any third person, that the latter can, without having seen the patient, form an approximate idea of the condition described.

If these terms are met, the particular method of attack and order of examination are matters of secondary importance, provided some rational guiding principle is followed. The chief matter is to get the facts, to record together things which belong together, and to group findings under their appropriate heads, which should be writ large.

The plan of examination which follows is one of a number which may be adopted, all of which serve their purpose. It possesses the advantages of being brief, simple, rational, comprehensive, self-suggestive, not taxing the memory.

PSYCHOPHYSICAL SCHEMA.

I. STEREOTYPED INTERROGATORY.

II. INDIVIDUAL PECULIARITIES OF APPEARANCE AND EXPRESSION.
Stigmata. Anthropometric Data.

III. PSYCHOLOGIC ANALYSIS.

A. CENTRIPETAL TRACTS. Psychosensory Sphere.
(*Primary Sensation.*)

an-
hyp-
par-
hyper- } æsthesia.

(1). The special senses.
(2). Cutaneous and Muscle sensibility.
(3). Cœnæsthesia.

B. CENTRAL TRACTS. Intrapsychic Sphere.

a-
hypo-
para-
hyper- } psychosis.*

(1). Attention.
(2). Orientation. Adjustment of the Microcosm to the Macrocosm.
(Interpretation of Primary Sensation,—*Secondary Sensation.*)
(a) Autopsyche.
(b) Allopsyche.
(c) Somatopsyche.
(3). Memory. Recording Faculty, Recollection.
(Retaining of Primary and Secondary Sensations,—*Tertiary Sensation.*)
(4). Condition of Consciousness. Associative Processes. Imagery. Insane Ideas.
(*Chaining together of Primary, Secondary and Tertiary Sensations.*)

*In the schema, "psychosis" is used in its original psychologic meaning, to denote any psychic process.

(5). Critique. Judgment. Power of Conclusion. Abstract Reason.

(6). Psychic Mode. Affect-tone (qualitative and quantitative). Ethic. Instincts, social and religious, sexual, conjugal and parental.

(7). Autognosis and Autoprognosis. Insight,—adequate, partial, absent, perverted, exaggerated.

C. CENTRIFUGAL TRACTS. Psychomotor Sphere. Volition. (*Reaction to Primary, Secondary and Tertiary Sensations.*)

a-
hypo-
para-
hyper- } kinesis.

(1) General muscular strength and tone. Maintained effort.
(2) Gait and Station.
(3) Coordination.
(4) Tremor.
(5) Paresis and Paralysis.
(6) Tics.
(7) Speech. Handwriting.
(8) Reflexes.
  (a) Tendon.
  (b) Cutaneous and Mucous Membrane.
  (c) Pupillary.
  (d) Organic.
  (e) Dermatographic.

IV. SOMATIC CONDITION. Nutrition. Sleep.
(1) Respiratory.
(2) Circulatory.
(3) Digestive.
(4) Uro-genital.
(5) Trophic and Vaso-motor.

In a scheme of examination such as the foregoing, all the phenomena both physical and mental are comprehended in an organic

whole, which aims to be, not a dissociated array of symptoms, but rather an orderly picture of a diseased personality, the various expressions of which stand in their natural relations to each other. The neurologic manifestations are not described as something apart, independent of the psychic symptoms proper, but are dealt with in their appropriate places represented by the centripetal and centrifugal tracts, while the specific mental phenomena occupy their natural intermediate position represented by the central tracts.

The elements of this scheme are for the most part self-explanatory and but few words of comment are indicated.

I. *The initial interrogatory* should not be too long, may embrace a dozen or two questions, and should be fairly stereotyped. It serves at least three purposes: (1). It establishes the best possible *rapport* between the patient and the observer. (2). It serves as a valuable index to the trend the subsequent more detailed mental examination must take. (3). By being stereotyped, identical or similar questions being asked in each case examined, it affords at once an idea of the comparative reaction of patients in the various pathologic states.

The nature and number of the questions to be asked in the initial interrogatory is a matter of individual taste. They should, however, be such as will demonstrate the condition of the patient's memory regarding the essential events of his life, his more recent experiences and the facts of his illness ; his view of his relations to others and to his surroundings ; his idea of time and place ; his belief as to his own physical and mental condition. Repeating a question after an interval, under a different form, often helps to bring out a memory defect.

The following stereotyped interrogatory has been found useful.

(1) Full name?
(2) Age?
(3) Occupation?
(4) Birthplace?
(5) Birth year and day?
(6) Married? How long? What year?
(7) Children? Number? Age of eldest? Age of youngest?
(8) Residence? Address?

(9) How long have you been here? (in the clinic).
(10) Date of to-day?
(11) On what date did you come?
(12) What is this place? Its location?
(13) Do you know any of the persons here present? Which ones?
(14) Who came with you here?
(15) Reason for your coming?
(16) Have you been ill? How long? In what way?
(17) How is your present physical health?
(18) Do you complain of any mental trouble?
(19) Cause of your illness?
(20) What are your hopes or plans for the future?

II. *Individual peculiarities.*—Under this head may be summed up briefly the patient's striking characteristics both pathologic and normal. Such a summary affording a bird's-eye view of his personality, serves subsequently as a ready remembrancer of the case. It is especially important that it be supplemented by profile and full-face photographs. Here may be properly entered a description of any physical stigmata present, likewise the anthropometric data, which should include at least—

(1) Height (centimeters).
(2) Stretch of arms.
(3) Weight.
(4) Head circumference, Tracing.
(5) Cephalic Index.
(6) Hand grasp, right and left (dynamometer).

III.—*The psychologic analysis* aims to furnish a synthetic view of the diseased personality by examining first the condition of periphery sensibility and the afferent paths; second, the state of central intrepretation, elaboration and association; and finally the character of the psycho-motor reaction.

Adopting the nomenclature of WERNICKE, there may be four variations from the norm on any of the three sides of the arc, —afferent, central, efferent. Thus in the first or psycho-sensory sphere, there may be anæsthesia, hypæsthesia, paræsthesia, or hyperæsthesia ; in the central or intrapsychic sphere,—afunction, hypofunction, parafunction, hyperfunction; in the motor sphere,—

akinesis, hypokinesis, parakinesis, hyperkinesis. All possible neuropsychic symptoms may be described in terms of these twelve variants.

In the detailed consideration of the state of the special senses, of cutaneous and muscle sensibility, and cœnæsthesia, the presence or absence of fallacious sense perceptions must be determined. Often the utmost care is necessary in proving the evidence, before one can safely say in a given case whether hallucinations exist. The distinction between hallucinations and illusions is serviceable when it can be drawn, and in each instance the exact nature of the sense-deceptions should be described. It must be determined which senses are involved, and the order of their involvement ; the time of day when the fallacious sensations occur; their relation to sleep and waking; their association with definite changes in the state of consciousness, particularly orientation.

In seeking the origin of hallucinations, the question of drugs must be considered. One must also remember the possibility of after-images. Particularly important to recognise are the optic, and sometimes auditory sense-deceptions of the transition stage between waking and sleeping (hypnagogic hallucinations) such as may occur in normal individuals, and are characteristic of conditions of fatigue or exhaustion.

The intimate relation between dream-content and waking thought-processes in pathologic states of mind is well known. Thus certain patients often appear unable to distinguish between dream and waking experiences, and what may at one time be recorded as true hallucinations, turn out later to have been nothing more than a dream recollection carried over unconsciously by the patient into his waking state. The association of sleeping and waking dream hallucinosis is revealed exquisitely in conditions of clouding of consciousness, described by RÉGIS as *délire onirique*.

Finally, in describing the characteristics of hallucinations it is necessary to separate those of peripheral sensory distinctness, occurring fortuitously without subjective relation to the content or consciousness (" visions," " voice of God," etc.), from those of more obscure content or paler coloring of central origin, as, for example, when an oft-recurring thought-process is finally given a vague auditory projection by the patient.

The importance of the state of cœnæsthesia in influencing the mental, more specifically the affect tone, has recently been emphasised by COWLES.[4]

These are a few of the points which must be borne in mind in settling the place of sensory anomalies in any given morbid condition.

Having dealt in detail with the various forms of special and general sensibility and having determined or excluded any lesions of the peripheral tracts, we next turn to the special province of intrapsychic activity. Under the seven sub-heads in the schema are comprehended in a somewhat arbitrary manner, the essential psychic processes and states into which our inquiry must be carried. That this schema is very imperfect will be self-evident. It offers however, a suggestive arrangement of the several elements and attempts to indicate the value of interpreting higher processes, wherever possible, in terms of lower and simpler ones.

The general qualities of *attention* will have been sufficiently demonstrated by the initial interrogatory. Its essential modifications are in,—

(a) Spontaneity.
(b) Intensity.
(c) Dirigibility.
(d) Stability.

The character of the attention is dependent in the first place upon the condition of the afferent paths; and upon the quality of the attention are in large part dependent in turn the states of *orientation*, and especially *memory*, as a simple test of the recording faculty (Merkfähigkeit) in a preoccupied individual will show.

The manner of the patient's adjustment to his surroundings is considered, following WERNICKE, in terms of the three spheres of consciousness—the *Autopsyche*, or conscious representation of the Ego; the *Allopsyche*, or conscious representation of the external world in its temporal and spacial relations ; the *Somatopsyche*, or conscious representation of the anatomic and physiologic nature of the individual.

[4] Psychiatry in the Functional Psychoses, AMERICAN JOURNAL OF INSANITY, Oct., 1905.

The state of *consciousness* or associative memory depends upon the condition of the elements which precede it in the schema. It represents the sum of the processes of association in their two chief modifications, qualitative and quantitative.

The character of the individual associations must be taken into account, with regard to (a) sex, (b) time of life, (c) social position, (d) individual intellectual status. In general the manner of the grouping of ideas may be determined by observing—

(1) The rapidity of the succession of ideas,
(2) The facility of the flow of ideas,
(3) The uniformity of the flow of ideas,
(4) The presence or absence of recognisable connecting links (direct and indirect associations),
(5) The completeness and permanence of the separate ideational images,
(6) The influence of the surroundings upon the ideational flow (suggestibility),
(7) The presence of pathologic associations,—an excess of outer associations (those determined by mere external relations) over inner associations (those deductively determined), particularly, a predominance of sound associations.

Finally the examination must include the *faculty of critique*, the highest human psychic function, the complete loss of which constitutes the most trustworthy criterion of dementia. It is the degree of development of this faculty more than any other factor which determines the position of the individual in the mental hierarchy. Representing as it does the highest and latest acquired mental function, it is the most constant to suffer in any form of insanity, and the nature and severity of the lesions of judgment, of the ability to draw just conclusions from given premises, are in all cases especially important to determine.

Having taken into consideration the various so-called intellective faculties, which together may be said to constitute the *form* of consciousness, there remains to be studied the individual *feeling-tone*, the emotional reaction with its pathologic variations, representing the *color* of consciousness. In this field

the personal equation is especially important, and individual differences in control, whether predominatingly by the heart or the head, must be carefully weighed.

> "Chaque homme a son destin . . . .
> Les uns ont une idée, les autres un désir."

The affect-tone is simply the mode of the conscious ego in the presence of its environment, and for our present purpose may be said to be determined primarily by the degree of warmth with which the ego voluntarily or involuntarily sets itself in relation with the objects of consciousness. If this *relational warmth* be temperate, the ego may be said to be independent, to possess a healthy self-sufficiency; if it be greatly diminished, a more or less complete isolation of the ego may result, favoring the development of various delusional fabrics; if, on the contrary, the relational warmth be greatly increased, the ego is subjugated by an emotional instability which may manifest itself in an affect psychosis. In this connection must be studied the so-called instinctive tendencies, normal and pathologic, of the individual, his independence of, or dependence upon, external influences,—the love of wife and children, the "support" of religion, the reinforcement of social intercourse. Both the manner and the degree of an abnormal warmth or frigidity in these relations, must be sought. This will include as well the general attitude of the individual to his surroundings from the view-point of the usual conventions and proprieties.

The survey of the psychic manifestations may be properly closed and summed up in the *Autognosis,* which should contain the exact statement of the patient's idea of his condition,—mental, spiritual, physical,—the causes and outlook. The degree of insight which a patient possessses is always an important factor and any changes in his point of view from time to time should be recorded. It is to be borne in mind that the patient's idea of insanity is naturally that of a layman, and that consequently his declaration that he is not insane is no more evidence of a lack of insight than it is that his mind is sound. It is common enough for a patient to say, "I'm not insane, my mind is clear, I have my memory. Ask me any question and I will answer you rationally, propose me a sum and I will do it correctly. I am not insane."

> "It is not madness
> That I have uttered; bring me to the test,
> And I the matter will re-word; which madness
> Would gambol from."

And this is simply an expression of the prevailing belief in the community, and unfortunately with many physicians, that a person who does not rave, who knows where he is and can reply naturally and correctly to questions, cannot be really insane. While, therefore, the declaration of the patient that he is sane may not be in itself a morbid sign, he may be at the same time very definitely alienated.

The final question in the psychologic analysis,—that of the condition of the *psychomotor functions,* is in reality the most important of all, inasmuch as movements are the channels through which the psyche asserts itself. What the individual perceives and recognises, what he deliberates and concludes, what he feels and wishes,—these facts of consciousness we can judge only by their peripheral motor expression.

Psychiatry may be defined as the *pathology of reactive movement.* WERNICKE subdivides movements, for clinical purposes, into three classes,—(a) *expressive,* accompanying changes in the feeling-tone; (b) *reactive,* following directly upon external stimulation; (c) *initiative,* resulting from the so-called spontaneous thought-processes. All movements are however fundamentally reactive, and this subdivision is a purely arbitrary one, and indeed not always possible. It is nevertheless of distinct value clinically to separate movements which represent directly the patient's reaction to his surroundings from those which constitute the external expression of processes arising intrapsychically,—in other words to distinguish between the reactive movements to *present* external impressions and reactive movements to *past* impressions by way of associative memory.

In investigating the psychomotor reaction several points are important to consider: First, the general character of all the patient's movements, their rapidity, completeness and accuracy of execution, the amount of associated effort and energy consumed, their purpose and result. Second, the predominating element in the genesis and control of the patient's motor expression, whether external or internal, whether reflex or conscious, whether intel-

lective or emotive. Finally, to state the matter simply in another way, the relation or absence of relation between the peripheral motor phenomena and the content of consciousness, or the feeling-tone. To be noted are changes in facial expression as indicative of emotional states, the presence of laughing and crying or other primarily expressive motor phenomena, the patient's general bearing, his carriage, attitude and gait, his execution of suggested movements, his spontaneous gestures, and movements of defense, attack, or prehension with their morbid variations.

The psychomotor sphere resolves itself finally into two main elements,—the psychologic and the neurologic. The latter has to do with the state of peripheral innervation and the motor end-apparatus, the chief aspects of which are enumerated in the schema. The psychologic element on the other hand, deals with the *will* in the broadest sense,—the questions of the psychic initiative, the capacity for mental application, and the creative impulse.

VIII.

The object of a clinical history as herein outlined is not primarily to furnish a picture of a disease, but rather of a diseased personality, showing in what way the functions of normal mental life are disturbed in the morbid process, and deriving so far as possible pathologic from healthy phenomena.

Having completed an impartial summing up of the case, we should not summarily assign it to one of the groups of some fixed classification, but rather *compare* the resultant tableau, point by point, with similar disease-conditions of our own observation, and particularly with those described by the authors of classifications. If then the picture fits, without forcing, a pattern already laid, well and good. We can attach the label with satisfaction. If however, it does not fit, we do not necessarily feel that we know less about the case, simply because we have not a diagnostic name ready to apply. By being willing to keep our histories reasonably open,—not overhastily closing them with the seal of a decisive diagnosis which might possibly serve as a closed door against subsequent critical observation, it may sometimes be possible to carry our nosologic differentiation a step further, in discovering new forms of morbid mental manifestation.

IX.

The view-point which this paper aims to emphasise implies not only that the clinical history does not begin with the patient's admission to the hospital, but also that it does not close with his discharge, whether recovered or not. In an ideal reception hospital, or small clinic for acute and initial cases, the movement should be fairly rapid. This means that only a very small segment of the patient's life, perhaps only a relatively small part of the course of his disease, becomes matter of direct observation in the clinic. It is of the greatest importance therefore that the clinic keep in close touch with all its discharged patients, following them either in their private life or in their later experiences in other hospitals. Cases of assumed recovery should be carefully scrutinised from time to time to discover whether the recovery be real and permanent. The question of "recovery with defect" is also one upon which more light needs to be thrown. In the case of recurrence it should be established whether the later attack does or does not represent simply a phase of the original disease. By separating a sufficiently large number of cases, in which a single attack occurs during the patient's lifetime, from those which are characterised by repeated attacks, it may be possible to discover in the accumulated material points of prognostic moment at present unknown. The relations may also be demonstrated between conditions more or less similar occurring at different periods of life, for example, the identity or individuality of the affect psychoses of the involutional period and those of earlier life. The one question of prime importance which confronts the alienist at the onset of every case of insanity is, "What will be the immediate and final outcome of the disease?" and the surest answer to this question is to be found in having at command a stock of completed psychic biographies for comparative study.

X.

In conclusion there is little to add. It has not been the object of this discussion to offer a complete and ideal programme of record-making, but merely to suggest certain points which experience has shown to be important,—and sometimes overlooked. As for the method of clinical observation, that is something which

every man is bound to work out for himself. The cardinal virtues of the psychic biographer are three: tactful patience in grubbing for facts, a skeptic attitude towards historic data as commonly supplied, and an impartial accuracy in recording established facts.

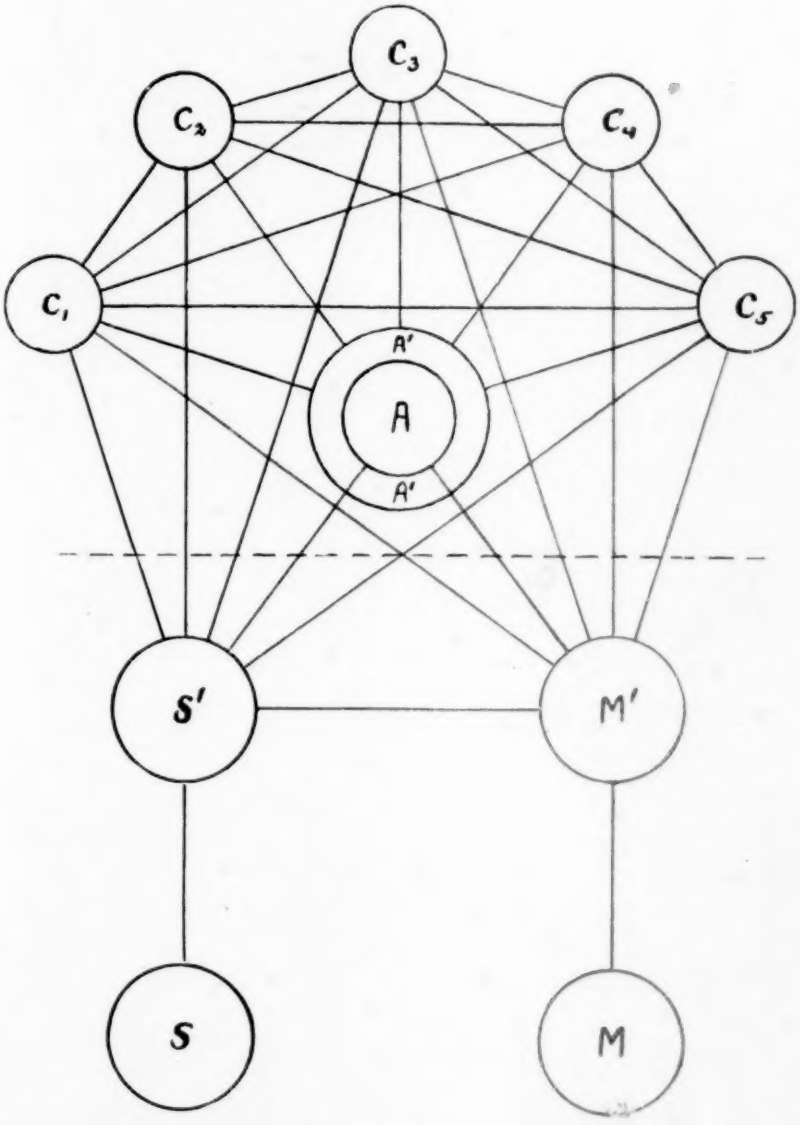
The one essential to every history—it cannot too often be repeated—the one item which is absolutely necessary to a correct appreciation of the various morbid manifestations, is an approximate idea of the *individual psychic groundwork.* We are not dealing alone with an organ composed of epithelial cells and blood-vessels, which in a normal condition is of practically identical nature in all the individuals of the species, and which under pathologic conditions must, by virtue of its anatomic relations, manifest this or that definite and characteristic change both in structure and function. We have to do on the contrary with a series of human minds, the highest product of evolution, and which in spite of the relative uniformity of the discharge of the elementary psychic functions, present nevertheless the greatest possible individual variations. Freedom and equality are characteristic neither of man nor of the mind of man, and we cannot compare two psychoses unless we are first able to compare the two individual minds. The proverb "One man's food another man's poison" may be given a psychiatric turn,—

What in one mind would be a sign of alienation, may be in another mind a normal manifestation.

SCHEMA TO ILLUSTRATE THE PSYCHOLOGIC ANALYSIS.

Centripetal or sensory paths are represented in blue;
Centrifugal or motor paths in red;
Central or intrapsychic paths in black,
The cerebral hemispheres are represented by the polygon S′ 5C M′.

S = any peripheral sense organ; *e. g.,* the retina.
SS′ = the corresponding sensory tract; *e. g.,* the path between the retina and cuneus.
S′ = the seat of *primary sensation* corresponding to the sense organ S; *e.* , the cortex of the calcarine fissure.
M′ = any cortical center for motor discharge; *e. g.,* one of the several centers of the precentral gyrus, or BROCA'S convolution.
M′M = the corresponding motor (pyramidai) tract.
M = the corresponding peripheral motor organ; *e. g.,* the muscles of articulate speech.



SCHEMA TO ILLUSTRATE THE PSYCHOLOGIC ANALYSIS.

SS′M′M = the sensori-motor reflex arc. This is the pure reflex arc which represents the cord reflexes, likewise the reflexes of animals which do not manifest the phenomena of consciousness, and may finally stand for the first unconscious reflex of the infant.

A = the focus of conscious attention; likewise the seat of identification and interpretation of the primary sense perceptions received at S′. A. may therefore be called the seat of *secondary sensation*, or apperception. A. is also the center through which takes place the reactive process known as a conscious voluntary psychomotor discharge, or act of the will so called.

S′A = the psychosensory tract.

Lesions in SS′ or S′A produce respectively peripheral or central

an-
hyp-
par-
hyper- } æsthesia.

AM′ = the psychomotor tract,

Lesions in AM′ or M′M produce respectively central or peripheral

a-
hypo-
para-
hyper- } kinesis.

SAM = the psychic reflex arc, the arc of normal conscious psycho-sensori-motor activity as displayed in man and in those animals endowed with associative memory.

The broken line is drawn in to separate the higher and lower nervous phenomena,—the fields respectively of psychism and reflex automatism. Animals possessing only the primary nervous mechanism indicated below the line may be called *protopsychics*, those possessing the upper segment as well, *metaphysics*. Neural processes involving only the lower arc may be spoken of as pure *reflexes*, those involving the upper arc, as *reactions*.

C = the seats of memory pictures; association centers. Images received at S′, interpreted and classified at A. may be said to enter into relations with similar images already present in their respective memory centers. C. may therefore be taken to represent the seats of *tertiary sensation*.

A′ = Border consciousness, the inner circle representing the threshold. The relations to each other of the two circles A. and A′, may be illustrated by comparing the inner circle to the pupil of the eye which dilates and contracts, and the area of the outer circle to the iris. Thus images hovering beyond the threshold may be said to become matter of conscious appreciation by the enlargement of the circle A. to include them.

CC, CA, CA′ ACA′, etc. = Thought processes. Acts of associative memory. Lesions in these tracts produce

$$\left.\begin{matrix}\text{a-}\\ \text{hypo-}\\ \text{para-}\\ \text{hyper-}\end{matrix}\right\}\ \text{psychosis.}$$

In normal resting attention, if such a condition may be assumed, the *status mentis* may be said to be represented by the schema as it stands, the focus of consciousness A, being in direct connection with the receiving center S′ and the discharging center M′. The centers of latent memory pictures C_{1-5}, on the other hand, while in direct communication with the border consciousness A′, as indicated in the diagram, are nevertheless not, in the assumed resting condition, directly connected with the center of conscious attention A.

Given this condition, a normal sensori-psychomotor phenomenon might be described taking place as follows. A primary sense impression is received at S′ and transmitted to A. At this point memory pictures between which and the impression occupying A. psychic tropisms may be said to exist, are awakened perhaps at C_2 and C_4. The connections C_2A and C_4A are at once established and we have the complete concept represented by the triangle AC_2C_4A. The entire reactive phenomenon would therefore be indicated thus,—$SS'A(AC_2C_4A)M'M$. Such a phenomenon may be called a *conscious process.*

The concept (AC_2C_4A) has now become a unit and may be represented henceforth perhaps by C_3.

If now on the next occasion when a sense impression having a psychic affinity for C_3 reaches S′, a state of preoccupation be assumed, the psychosensory impulse may be stopped at A′ and be at once shunted off without traversing A. at all. The reaction may take place in a similar way and we have the phenomenon $SS'A'C_3A'M'M$. This would constitute a *subconscious process.*

Assuming in the next place a still greater abstraction of consciousness, we may conceive of psychic events which not only do not pass through the focus of consciousness but which do not even impinge upon the border consciousness, and are therefore perhaps not re-suggestible. Such a phenomenon would be represented by $SS'C_3M'M$, and might be spoken of as a *paraconscious process.* All the elements of consciousness must be assumed to be variants, and the area of the circle A′ may vary within wide limits. The processes described as subconscious and paraconscious may differ from each other, therefore, only in degree.

Finally we have the *unconscious processes* of the vegetative and automatic functions, represented by the lower arc $SS'M'M$.

It will at once be seen how both the variations in normal mentality and the various pathologic states can be graphically represented by slight alterations in the several centers or connecting lines of the schema. For example, in a normal psychic state the border consciousness A′ may be

compared with a filter through which pass to A. only those memory impressions which have a necessary affinity with the image at the time occupying the focus of consciousness, all other memory images being repressed in the subconscious sphere. In the state of the so-called *maniacal flight* on the other hand, the filter-function of A′ may be said to be defective or absent and a great variety of centers stands at once in connection with A. This condition would be represented by extending all the lines C_1A', C_2A', C_3A', etc., until they touch the inner circle, or, what amounts to the same thing, by conceiving the circle A. dilated until it coincides with A′.

Other pathologic variations will readily suggest themselves.

Correspondence

The Editors, American Journal of Insanity:

My attention has been called to a mathematic inaccuracy in my article in the last number of the JOURNAL on dementia präcox. It was stated (p. 267) that the per cent of recoveries from the katatonic and hebephrenic groups, according to Kraepelin, is 21. Kraepelin states (Psychiatrie, 7th edition, pp. 208, 234) that 8 per cent of his hebephrenics and 13 per cent of his katatonics may perhaps be spoken of as cured. Adding these figures together gives 21, which is obviously not the percentage of recoveries of the two groups or of dementia präcox as a whole. In the paranoid group no recoveries are recorded. Consequently the percentage of recoveries of all cases of dementia präcox, according to the above-quoted statistics, would be the average of 8, 13, and 0, (admissions being approximately equal in the three groups), or about 7 per cent.

CLARENCE B. FARRAR.

Obituary

THEODORE DEECKE.

About thirty years ago, when pathology was receiving but scant attention in our hospitals for the insane and the microscope was just beginning to make its impress upon clinical psychiatry, the work of Theodore Deecke attracted wide attention. As special pathologist at the State Lunatic Asylum (now Utica State Hospital), the subject of this sketch was a pioneer in the field, and the pages of this JOURNAL attest the activity of his service. The older men in the specialty, to whom he was best known, will learn with regret, therefore, that he died at his home in Utica, N. Y., on December 15, 1905.

Theodore Deecke was born October 1, 1836, at Lübeck, Germany, where his father was professor of the classical languages and history in the High School. His intellectual inheritance was of the best, and members of the family occupy high places in German life to-day. After a thorough preliminary education in his native town, he took up the study of the physical sciences, comparative anatomy, histology, and physiology at the universities of Halle, Berlin, and Kiel. For three semesters he was an assistant in the Berlin Pathological Museum under Dr. Carl Hartwig Peters, a brother, by the way, of the late astronomer of the Litchfield Observatory, Hamilton College. He was a close student of advanced chemistry, at one time turning his abilities to practical account by engagements with large manufacturing establishments in Hamburg and Bremen. Thereafter he returned to Lübeck to undertake scientific work in connection with the city hospital. In 1867, he came to the United States and settled in New York. His work attracted the attention of the late Dr. John P. Gray, who was always quick to anticipate advances in psychiatry and to avail himself of the energies of progressive spirits in fields that promised good harvests. Thus

it came about that Mr. Deecke was engaged as special pathologist to the State Lunatic Asylum in March 1873. This position he held till May, 1891, when he retired to private life and opened a laboratory in the city of Utica.

Mr. Deecke's genius was best shown in microscopy and in the domain of chemistry. These qualities made his services valuable in the courts as an expert toxicologist. As a pathologist he occupied subordinate rank, to say which is to belittle neither talent nor achievement since his training had not been of a kind thoroughly to equip him for the special service which he set himself, or, more accurately, was set him, to perform. His limitations in this regard arose solely from the circumstances of his education and training. He was not a physician with clinical experience in general medicine or psychiatry, and concerned himself but little with the practical aspects of psychiatry, thus failing at times to interpret clinical phenomena by the data of the laboratory, and unfortunately the necessity of accurate clinical studies, antecedent to pathological investigations was not insisted upon in the problems he was asked to undertake and solve. But as a microscopist he possessed unusual skill. His brain and cord sections (he was himself the inventor of a microtome for this purpose) were excellent, and his micro-photographs, which were also made with an original apparatus, had at one time a great vogue.

He wrote for the medical press many articles embodying the results of original research in many fields. Among his more notable essays were those on the Germ Theory of Disease, "Primäre Verrücktheit," Urea and Phosphoric Acid in the Urine, The Structure of the Vessels of the Nervous Centers in Health and the Changes in Disease, Some Changes of the Ganglion Cells of the Grey Cortex of the Brain in Acute Delirium, and their Relation to those in Acute Insanity and in Dementia, and The Preparation of Tissues for Examination. These papers appeared in this JOURNAL, together with many translations from the Italian, the German, and the French.

The deceased scientist possessed literary and artistic ability of no mean order. He wrote plays and was the author of many poems that were evoked by anniversaries and similar festive occasions among his fellow-countrymen, by whom he was greatly

esteemed for his learning and genial qualities. He was a great lover of music and himself a performer on violin and piano.

The deceased is survived by a widow and one son and three daughters by a former wife.

EMMET C. DENT, M. D.

Dr. Emmet Cooper Dent was born in Macon, Mississippi, in the year 1857. He was a descendant of the Dents and Witherspoons, of Maryland and South Carolina, who were prominent patriotic soldiers and statesmen during the Revolutionary period. His early education was received at the S. W. Presbyterian Theological Seminary at Clarksville, Tenn. Later he begun the study of medicine at the University of Virginia, and completed his course at the Bellevue Hospital Medical College in New York City in 1879. His life work was the study of insanity and the care and treatment of the insane, and for this unfortunate class he sacrificed every personal interest and ambition. On January 29, 1879, he was appointed assistant physician on the medical staff of the New York City Lunatic Asylum on Blackwell's Island, by the Commissioners of Public Charities. He was promoted to assistant medical superintendent December 4, 1882, and was made medical superintendent December 31, 1886. On December 8, 1886, he married Anna Lane Scott, of Mississippi. She with two daughters remain to mourn their loss.

Dr. Dent was active and prominent in his profession. He was a member of the New York County Medical Society; American Medico-Psychological Association, of which he was made secretary and treasurer at the meeting in St. Louis in May, 1904; State Medical Society; Physicians Mutual Aid Association; New York Academy of Medicine; Psychiatrical Society, and others. He was also a member of the Lotos Club, Southern Society, and the Holland Lodge F. & A. M.

In February, 1896, when the New York City Asylums were reorganized and placed under State Care, he was transferred to Ward's Island, continuing there as superintendent of the female department of the Manhattan State Hospital. On June 1, 1905, the two departments were consolidated by act of legis-

lature, and he was made superintendent and treasurer of the entire hospital as it now exists, it being one of the largest of its kind in existence.

To Dr. Dent is due the credit of many advances and ideas in the care and treatment of the insane. He was noted at home and abroad as being one of the first to introduce and develop hydrotherapy as a means of treatment, almost to the exclusion of sedative and tonic drugs. The application of camp life to the care of the acute insane; the use of music, and of special diversions and amusements; advanced surgical care and treatment, and of operative procedure, especially on the female insane received his cordial and intelligent support. He was the author of numerous articles dealing with the above matters. His hospital was one of the first to accept the more modern views in psychiatry, and has made material advances in the way of systematic investigation especially in clinical studies. He gave clinical lectures on the various types and manifestations of insanity, and formed his staff of thirty physicians into a society for the advanced study of psychiatry. Nothing of promise toward the interest of the hospital escaped his attention, he was ever keen and alert for the welfare of the five thousand unfortunates under his watchful care. It may be truly said "he hath done what he could."

Dr. Dent died at 4.15 a. m., January 12, 1906, from endocarditis. The funeral services were held at St. Andrew's Church, New York, and were largely attended by prominent physicians from various parts of the state, and by the members of his staff. He was interred in Woodlawn.

The members of the Council of the American Medico-Psychological Association held a meeting at the Hotel Astor, New York City, on Tuesday, January 16, 1906, at which meeting they appointed, by formal resolution, a committee of three members of the Association, consisting of Dr. Wm. Austin Macy, Dr. George A. Smith, and Dr. Charles W. Pilgrim, to draw resolutions expressive of the loss of their late fellow-member and the late secretary of the Association, Dr. Emmet Cooper Dent.

The Council further directed by resolution that the said committee cause a copy of the resolutions prepared by them to be forwarded to the immediate family of Dr. Dent, and that the said

resolutions also be spread on the minutes of the Association, and other copies be forwarded at once to the principal medical journals.

The special committee appointed by the Council have prepared the following resolutions:

WHEREAS, By the death of our late associate, fellow-member, and secretary, this Association has been deprived of one of its most worthy members and progressive workers; and,

WHEREAS, We, his associates, have lost a dearly loved comrade whom we honored for his integrity, uprightness of character, and sterling worth, whom we respected for his well-known high standards in professional and in ordinary living, whom we admired for his unselfish devotion to all that made for a higher manhood, and for his steady and unflagging interest in the suffering humanity to which he ministered, and whom we all loved as an ever-loyal friend and companion; therefore, be it

Resolved, That we extend to the bereaved family our heartfelt sympathy in their grief and the assurance that his memory will ever remain cherished by us.

WM. AUSTIN MACY.
GEORGE A. SMITH.
CHARLES W. PILGRIM.

Notes and Comment

COMPLEXIONS OF THE INSANE.—In a recent article in the *New York Medical Journal,* Major Charles E. Woodruff, of the U. S. Army Medical Corps, reaffirms his conviction that excessive exposure to light is responsible for much nervous damage to blonds, who, owing to lack of pigmentation, are not sufficiently protected in a climate to which they may have emigrated and in which they have not become acclimatized by reason of the development of a protective pigmentation. Blonds are not only more susceptible to neurasthenia than brunets, but this condition even among the latter is most frequent in America in the Southern States where sunlight prevails and least frequent in the Northern States where dark or cloudy days are more apt to prevail. He believes that the development of insanity may also follow the same rule because in every part of the world statistics show that the greatest number of cases occur in or near the lightest months—May, June, and July. He asserts that this fact is as true for India as for France or Germany. He quotes recent statistics furnished by Dr. Wm. L. Russell, of the New York State Commission in Lunacy, which show a decided trend towards a greater degree of blondness among the residents of institutions for the insane than among the surrounding population. He believes it safe to say that well-pigmented Americans do not suffer from insanity to the same degree as the less protected types, but adds very judiciously that any exact comparison or wholesale generalization is out of the question until the normal population of any region has been more thoroughly studied. It is pretty evident, however, that the man with dark hair, brown eyes, and olive or brown skin has a tremendous advantage in the struggle for existence in light countries and can evidently stand mental and nervous strains which blonds cannot endure except in cloudy places like Scotland or Norway.

Similar statistics furnished by Dr. Hutchins, of the St. Lawrence Hospital at Ogdensburg, N. Y., confirm the same general impression that the native-born insane in Northern New York are of lighter type than the general population from which they are drawn. In Major Woodruff's opinion it is of vital importance that observations be recorded of the complexions of all the sick and particularly of those suffering from nervous affections, as a valuable prophylactic and therapeutic indication. Such data to be of the greatest scientific value should be compared with statistics of the complexions of the general population, urban and rural, native-born and alien, and also native-born of foreign parentage. In his judgment the blond invalids in our population, particularly the tuberculous blonds, have long been injured by sending them South when they should be kept at the North; only brunet invalids will do well at the South.

How to Better the State Hospital Service.—At a recent conference of the superintendents of the New York State Hospitals with the Commission in Lunacy, Dr. William L. Russell, the medical inspector, presented a thoughtful and suggestive paper entitled "In what respects can the State hospital service be bettered?" The object of the paper was to bring to the notice of the medical officers of the institutions there represented special features of excellence which he had found in different hospitals during his visits of inspection to the end that they might be adopted in all the institutions of the State. In effect he endeavored to sketch the ideal hospital and to stimulate all to imitate it. He spoke in turn of: (1) "Clinical and Scientific Work," (2) "Nursing and Ward Service," (3) "Dietaries," (4) "Clothing and Bedding," (5) "Industries," and (6) "Fire Protection," substantially as follows:

(1) "As in the administration of the larger hospitals, and to some extent of all the hospitals, much of the detail relating to the maintenance of established standards of medical administration, and to the carrying out of plans for their improvement must necessarily be left to the first assistant physician, it has seemed advisable to outline some of his duties in relation to the clinical and scientific work. In the hospital under consideration, this officer had formerly a service, but as the demands of general administration have increased he has been relieved of this and now

acts as assistant superintendent. As patients are admitted to the hospital they are assigned by him to the different members of the staff for examination. He arranges for the presentation of the cases at the staff conferences and in doing so keeps informed of the progress and character of the histories and sees that none falls behind unnecessarily. He visits one or both of the reception services and of the wards for sick and surgical cases daily, watching administrative matters and at the same time acquiring from his own observation some knowledge of the new cases and of those suffering from physical illnesses. The special files relating to the joint work of the staff and to the accumulation of medical information are under his special supervision. These are the classification file, the etiological file, the file for general diseases and surgical conditions, the autopsy file, the medical literature file, and possibly others. The abstracts of the case histories are filed as decided upon at the staff conferences, and are added to or changed from one group to another as further information regarding the cases may require. These files represent the accumulated work of the staff, and the first assistant sees that each member does his part. In the treatment of the cases he sees especially that definite indications are met, more particularly those requiring special administrative arrangements, such as surgical operations and physical procedures. He pays special attention to the medical library, the autopsies, the laboratory work, and the nursing service. Some of his duties in regard to these will be referred to later. He has, of course, other responsibilities and duties, but as already explained, only a few points can be referred to under each heading in this paper.

"The duties of the first assistant having much to do with general administration, require his presence in the office more than the other members of the staff. The latter are away from the offices most of the day. The case histories are written in the wards, visitors are as a rule interviewed where they see the patients, and what with special examinations, laboratory work, surgical operations, autopsies, and administration matters relating to the services, the physicians are fully occupied and have little occasion for being in the offices during the business hours of the day. At 11.30 daily, the staff conference is held. The meeting takes place either in a sitting room on one of the wards of the reception service or in the staff library. The superintendent usually attends and all are expected to be on hand promptly. The programme has been arranged by the first assistant, and he or one of the other physicians acts as secretary, keeping the minutes so that unfinished matters are not lost track of. General administrative questions are usually disposed of quickly, though occasionally the whole meeting is given up to them. One or more abstracts of case histories are read and discussed, the patients being if possible, brought in and special features demonstrated. The symptoms are discussed with reference to diagnosis, prognosis, and treatment. If the discussion brings out points that have not been included in the case record, or if necessary information is found to be lacking, notes are made in the abstract, and

the physician who examined the case and the first assistant see that the omissions are supplied later if possible. Cases for discharge are also presented at the staff conferences for revision of the previous consideration of the cases and with reference to the advisability of discharge. Occasionally cases of special medical and surgical interest are brought in. Once a week the staff meet in the evening. At this meeting pathological specimens may be presented. The current medical literature is reviewed, the different journals having been for this purpose assigned to the members of the staff beforehand. As the journals come in through the mails the contents are glanced over by the superintendent and first assistant, and articles and items of special interest are checked in order to bring them more prominently to the attention of the members of the staff. Occasionally a subject is assigned to a member of the staff for review of the literature.

"The more active clinical and scientific work of the hospitals is connected more especially with the care of three classes of patients: (1) The new cases, (2) the acutely sick and surgical cases, (3) the chronic, infirm, and bedridden. I shall, therefore, refer to a few points relating to the medical work on the services where these patients are cared for.

"All the new cases are admitted in the reception service, and many of them remain there until transferred to the convalescent ward or discharged. On each reception service the number of patients for which the physician in charge is responsible has been reduced from time to time, until at present it is one hundred and fifty. A medical interne assists constantly on the service, and sometimes there are clinical assistants. All the members of the staff assist in the complete examination of the cases, and in preparing the records and abstracts. Each reception service is provided with a room equipped with instruments of precision and with facilities for urinalysis and blood examinations. A stenographer works on the service and the case records in white binders are kept in a suitable cabinet on the ward until the cases are transferred or discharged. As far as possible new cases are kept in the reception service, at least until the examination has been completed and the case presented at the staff conference.

"In the interests of economical and efficient medical attention and nursing, the acutely sick and surgical cases are brought together. The rule is that patients with acute illnesses except in the wards for chronic infirm and bedridden, and all cases requiring surgical operation shall be transferred to the sick wards if they are confined to bed ill for more than twenty-four hours. These wards form a separate medical service but the nursing and housekeeping organization are a part of that for the reception wards. The wards are arranged and equipped for general hospital work. A card file is kept on each of these wards showing the nature of the illness or surgical condition with which each patient is affected. When a patient is discharged from the service or dies, the card is sent to the first assistant's desk who sees that it is filed in a special file.

"The service for chronic infirm and bedridden is managed to some extent on general hospital lines. A diagnosis card is kept as on the sick wards. The physician in charge of this service is one who can appreciate what has been described to me by one of the superintendents as the right psychological moment to make requests for autopsies, it being important to secure consent before the patient dies if possible. The tuberculous cases are in this service, and although a separate building is not yet available, a sunny, well-ventilated ward has been taken and the cases are segregated and all precautions taken.

"The autopsies are made usually under the supervision of a member of the staff who has had some special training. He is responsible for the character of the autopsy, and for the selection, preservation, and shipping to the Pathological Institute when necessary, of such anatomical material as should be kept or worked up. The physician who had charge of the case at the time of death and usually other members of the staff assist at the autopsy, and usually most of the staff is present."

(2) "This is all that has been selected from the features relating to the clinical and scientific work of the hospitals, and I shall now pass to the nursing and ward service. One of the most important matters connected with this service is the employment of attendants. This is ordinarily attended to by the first assistant, the superintendent being consulted in special instances. The candidates are seen and examined beforehand when possible. Frequently, however, they are too far from the hospital. The degree of education, age, physique, and general experience are determined from the application and correspondence. Contrary to what seems to be a prevailing opinion, letters from references have been found to be of great service, and the confidential file kept in the first assistant's desk furnishes unquestionable evidence of the interest manifested by many citizens in guarding the hospital from unworthy candidates for positions. Letters forwarded or brought by the candidates are not taken very seriously and the writers of them are communicated with directly and informed that their replies will if they wish, be treated as confidential. As far as possible, probationers are employed on selected wards. These are wards which are not included in the systematic drill of the members of the training school, and the charge nurses or attendants are required to instruct the probationers and to make reports concerning them. The wards are such as are under the supervision of an observant, efficient, and conscientious supervisor, and the charge nurses of which can be relied upon to make intelligent and reliable reports, and to start the probationers right in their work and in their attitude toward the patients and the hospital. At the end of the month of probation those who have remained that long are examined in the rules of the hospital by the first assistant, and a report in regard to them is made by the charge nurses and the supervisors.

"In the training school for nurses efforts are made to give all the members systematic practical instruction and experience in the care of all classes of patients. They serve in regular rotation in different wards of

the reception services, in the sick wards, in the wards for epileptics, and in those for the infirm, untidy, and bedridden. The charge nurses of each of these wards has a definite responsibility in the plan of instruction, and before a pupil nurse is passed from one ward to the next, the record she has made is gone over by the matron, who also gives her a practical examination, and rates her, this rating being used in making up the final average for practical work. The matron has also added greatly to the character of work done and instruction given to pupil nurses on certain wards by post-graduate instruction to the charge nurses on these wards and personal attention to the methods of work on those wards for a temporary period. For the encouragement of reading among the nurses, a small special library has been established for their use, and a journal of nursing subscribed for.

"Our predecessors of forty years ago in the work of caring for the insane did not much believe in classification of the curable from the incurable even within the walls of the same hospital, and indeed the difficulties in intelligently discriminating between individual cases are so great that there is much to justify their views. The modern hospital is, however, as a rule, so large and the character of care and treatment demanded by modern ethical and medical requirements so elaborate that in the medical and nursing services especially, provision must be made for concentration in the management of certain conditions met with in the patients. This is especially noticed in the reception service and in that for the acutely sick and surgical cases. In the former the proportion of nurses to patients is one to three and two-tenths during the day and one to fifteen at night, in the latter the proportion is one to four during the day and one to twelve at night, the proportion varying from time to time with the character of cases. The proportions grow less and less in other services beginning with the infirm, untidy, bedridden, and epileptic and ending with the able-bodied quiet workers when the proportion is relatively very small. The reception and sick wards are in charge of graduate nurses and as far as possible other graduates are employed there as well. On the male service these wards are in charge of women. The supervisors on these services have been selected because of their special qualifications as nurses and executives, and the matron also visits these wards daily in her capacity of nurse.

"Before leaving the medical and nursing features of the hospital, it seems proper to add a few remarks in regard to treatment. As is well known, the so-called physical methods have become quite prevalent in the treatment of the insane. These include hydrotherapy, rest, massage, passive movements, graduated exercises, calisthenics, and electricity. The use of these measures with careful medical attention and nursing has led in this hospital to the complete discarding of mechanical restraint except incidentally in the form of packs, and also to a great reduction in the use of sedative drugs. Continuous full baths are in constant operation on the reception service, and packs and compresses and tonic sprays and douches

are used systematically for such patients on the reception services and throughout the hospital as need them. Quite a large proportion of patients who are restless, untidy, and destructive, are kept in bed. In many instances a careful examination of such cases disclose special indications for treatment and sometimes a period of bed treatment results in marked physicial and mental improvement. Quilted dresses and straight suits are seen on but very few patients. The bed treatment, hydrotherapy, occupation, and special nursing render these unnecessary. A large number of the patients are permitted free access to the grounds, and in many of the wards there are no bars on the windows, which open freely. On some nights not a single bedroom door is locked throughout the institution, and there are never more than a few. The acute curable insane and the tuberculous are given the benefit of outdoor treatment to the fullest extent possible, and even in winter weather they are bundled up in blankets and felt boots and placed out in the sun. The wards for restless walking cases are, as far as possible, emptied right after breakfast, and weather permitting the patients are kept outdoors all day except at meal hours, a few good patients with an attendant being left in each ward to finish the morning work. Fifty per cent of the patients attend amusements and religious services."

(3) "Two features relating to the dietary seem worthy of notice. The individual prescription method in regard to the food of patients requiring something different from the ordinary institution fare has been largely replaced by the employment of a modification of the general hospital system of several dietaries. This system simplifies the work of the doctors and also leads to better results for the patients as the dietaries are revised every two weeks and are more varied than the ordinary special diet. For the reception services and those for the physically sick and surgical cases there are three dietaries referred to as hospital, soft, and liquid. Besides these there are dietaries for epileptics and workers, and occasionally a patient with diabetes or some digestive disorder requires an especially prescribed dietary. The number of patients on each dietary is conspicuously posted on a blackboard in the kitchen and made to correspond with the lists in the dining-room and wards daily by the supervisor. Considerable attention is given to the dietary of patients fed with a tube, and it is varied by potatoes, bean, and pea purees, broths and fruit juices, in addition to milk and eggs. In the preparation of the dietaries they are first submitted to the steward by the chef and are then gone over by the first assistant and the matron and finally submitted to the superintendent."

(4) "In the management of the clothing, ward linen, mattresses, etc., it has been found preferable to fix responsibility as closely as possible by having everything marked for the ward to which it belongs. The clothing is, with few exceptions, marked for individual patients. The matron makes a weekly visit to all clothes-rooms and wards, at the same time making an inspection in relation to the ward housekeeping, and giving such directions in regard to methods, renovations, etc., as may be necessary.

Once a week the matron and the supervisors hold a meeting, at which reports are made and housekeeping matters discussed. Troubles relating to the laundry are brought to the matron unless they have previously been straightened out by the head laundryman and the supervisors. There is a complete checking system in and out of the laundry. Nearly all the dresses and suits for the patients are ironed in the laundry, the remainder being attended to by means of irons in a few clothes-rooms. The condemning follows a regular system, and is under the supervision of the matron for the women, and the steward for the men, the final inspection being made in the storeroom by these officers personally."

(5) "In the industrial department of the institution where so many patients are employed, the work rooms have as far as possible been brought together. A start has been made towards more definite industrial training for idle women. They begin with such simple occupations as hair picking, and simple plaiting or weaving for mats and baskets, and are gradually instructed in more complicated occupations. Forty out of fifty idle women of the chronic class have become useful workers through the instrumentality of a sewing school conducted by an attendant who has shown some aptitude for this work."

(6) "The special feature relating to fire protection which seems worthy of notice is the way in which the attendants have been drilled to empty the wards of patients on signal. Each attendant has an assigned duty and the patients are quickly brought to the exits, the rooms being examined and the doors closed as they are reached, and the extinguishers and hose got ready for use. This drill is carried out in a routine manner once a week and once in two weeks an extinguisher is emptied on each ward."

"*Summary.*—In the interest of brevity many excellent features observed at one hospital or another have been omitted. I hope, however, that enough has been said to suggest that a fuller knowledge of the methods and work of other hospitals would be helpful to each superintendent. There are very marked differences in methods and in results in one branch of hospital work or another throughout the service."

"Some of these differences are no doubt due to widely differing conditions and are inevitable, others are but an expression of a wholesome individuality which is the life of the service; while still others are due simply to a lack of knowledge and conviction that a thing can be done better in a different way. John Stuart Mill in his work on Liberty says that the special duty of a central organ in government should be that of making the knowledge acquired in one place available in another. Should not this be the special duty of this conference?"

The effect of such a paper, presenting as it does a composite picture of the best form of State institution, can but be stimulating to all medical officers. The model institution depicted may as a whole be beyond the excellence of any individual hospital, but

none the less institutions generally will be lifted up and improved by a knowledge of what others are accomplishing or are hoping to accomplish. It has been asserted that Dr. Brigham, of Utica, in an early day often published some improvement as actually made when after all it had only been conceived in his mind for future accomplishment. Let us hope that all the improvements suggested by Dr. Russell have germinated already and that a speedy harvest of good work may follow.

DEATH OF PIERRE ROY.—It is with regret that we note the death of this French alienist which occurred November 3, 1905. Dr. Pierre Roy was born in 1875, and was one of the most distinguished of the younger group of French psychiatrists. His services as interne in the asylums of the Seine and in the Paris hospitals, as chief of clinic of mental diseases at the *Faculté*, and as assistant physician in the public asylums had attracted the attention of his associates. He had published thirty-one papers, several in collaboration with others, notably *Demence precoce* with Dr. Deny in 1902, and on *Gigantisme* with Dr. Launois in 1904. His last work was the address on *Hypochondrie* delivered at the Congress held at Rennes in August, 1905. It is to be regretted that one who had accomplished so much in a comparatively brief period, should not have been spared for further work, of which he gave most positive promise.

INTERNATIONAL CONGRESS FOR THE CARE OF THE INSANE (Congrès international pour l'Assistance des Aliénés).—This congress will meet at Milan, September 26-30, 1906. The Italian Committee of Organization has chosen two subjects for general discussion, the first, "On the Progress of the Care of the Insane and especially of family care in different countries from 1902, the date of the last congress, which was held at Antwerp, until the present time." Second, "On the organization of observation wards, on supervision, and on isolation in asylums and in colonies. Methods which have given the best results." The above are intended shall be open for general discussion. The following subjects are to be discussed only by those whose experience makes them especially competent, and a limit of twenty minutes is set for each speaker: 1. On the care of convalescent insane

and on protecting institutions. 2. On the care of certain of the insane (phrenasthenics, epileptics, alcoholics, moral imbeciles) especially by means of family care. 3. On psychiatric and neuropathic ambulances and dispensaries. 4. On popular sanitariums for the neuropathic. 5. On the economic and social results of the progress of the care of the insane, especially of family care. 6. On state care of the insane.

Those desiring to join this congress should remit their subscription, twenty francs, to Dr. G. C. Ferrari, Bertalia, Bologna, Italy. If a paper is to be read, an abstract should be sent to Dr. Ferrari before the end of April so that it may be printed in French and distributed to each member. Dr. Owen Copp, of Boston, is a member of the International Committee and will probably be glad to give further information. Milan has been chosen as the place of meeting as an International Exposition is to be held during the coming summer, and visitors to the congress will find unusual sources of entertainment.

NEW DEPARTMENT IN THE JOURNAL.—With this number of the JOURNAL a new department, that of "Clinical Psychiatry" is introduced. It is proposed to publish in this department clinical reports of cases illustrating the varied manifestations of insanity, and contributions of carefully prepared illustrative cases will be welcomed. It is perhaps unnecessary to say to intending or possible contributors that they need have no hesitancy in forwarding such reports, if the observations have been carefully made, and the histories well worked out, because of any doubt or difficulty which may arise in naming the psychosis. What is desired is not a list of names taken from some one's classification, with illustrative cases, but on the contrary a series of well reported cases, which our readers may be at liberty to place in any category which suits them.

The introductory article by Dr. Farrar points out what should be sought for in individual cases, and while it is not expected that every observer will follow exactly the lines there laid down it is presented as a suggestive scheme for history taking.

TESTIMONIAL TO DR. HENRY M. HURD.—Our readers will recall that at the meeting of the Medico-Psychological Association in

San Antonio, Texas, in April last, a committee was appointed at the suggestion of Dr. Page to present to Dr. Hurd "a fitting testimonial as an expression of our appreciation of Dr. Hurd's untiring efforts for this Association and for the success of the JOURNAL, and as an indication of the esteem with which he is regarded by us all." Accordingly Dr. Page of Massachusetts, Dr. Burr of Michigan, and Dr. Murphy of North Carolina were appointed such committee to procure and present the testimonial.

In furtherance of this object the local members of the Association met at dinner with Dr. Hurd at the Johns Hopkins Hospital, on the evening of January twenty-sixth.

Near the conclusion of the dinner Dr. Charles G. Hill, acting for the committee, presented to Dr. Hurd in the name of the Association a beautiful silver loving cup with the following letter:

Henry M. Hurd, M. D., LL. D.

DEAR DR. HURD.—At the last annual meeting of the American Medico-Psychological Association, the undersigned were authorized to procure and present to you a token of the appreciation with which your long and untiring devotion to the interests of the Association is regarded, and of the personal esteem in which you are held by the members of this Association.

The duty assigned has been most agreeable, but attended by some embarrassment because of the conviction that no mere material gift, no article of handicraft, however rare and artistic, can adequately represent the pure qualities of friendly esteem and brotherly love.

In obtaining from the various members of the Association expressions in respect to the proposed testimonial, we have been impressed with the true and deep regard which has been evoked by your life, and your work along those lines in which we have a common interest.

Not alone your work, but your manner of working, your manifest convictions of duty, your fidelity to high standards, and your undeviating courtesy through the many years of your official responsibility in connection with the affairs of the Association and the editing of the AMERICAN JOURNAL OF INSANITY, have endeared you to each and all of us.

A loving cup has been selected for you upon which we have caused to be engraved the seal of the American Medico-Psychological Association, and memoranda of your distinguished services in promoting its growth and extending its usefulness.

This cup the members of the Association present to you and beg you to accept as tangible evidence of their abiding affection.

CHARLES W. PAGE,
P. L. MURPHY,
C. B. BURR,
Committee.

Dr. Hill speaking for himself, the guests of the evening, and the members of the Association generally, referred felicitously to Dr. Hurd's services to the Association, as a member, president, secretary, and editor-in-chief of its Journal. The cup was handed to Dr. Hurd, who, at Dr. Hill's suggestion passed it to Dr. Brush to read the inscriptions engraved upon it, which are as follows:

HENRY MILLS HURD, M. D., LL. D.,
FROM THE
AMERICAN MEDICO-PSYCHOLOGICAL
ASSOCIATION
IN RECOGNITION OF
HIS UNTIRING DEVOTION TO ITS INTERESTS.
1905.
A MEMBER SINCE 1879,
SECRETARY AND TREASURER 1892-1897,
VICE-PRESIDENT 1898,
PRESIDENT 1899,
COUNCILLOR 1901-1904,
MANAGING EDITOR
AMERICAN JOURNAL OF INSANITY 1897-1904.

Dr. Brush took occasion to refer to his long acquaintance with Dr. Hurd, and the help and benefit which he had derived from it. He spoke of the efficient work Dr. Hurd had done in the reorganization of the Association, and the high standard to which he had raised its JOURNAL, and congratulated himself and the Association that, in assuming Dr. Hurd's work in managing the JOURNAL, he was still to have the benefit of Dr. Hurd's advice and experience.

He spoke of the doctor's well-known characteristic, that of being always ready often at the sacrifice he knew of much personal comfort and convenience, to help and advise others, and said that at the dinner to Dr. Chapin in December, 1904, he had taken great pleasure when introducing Dr. Hurd as one of the speakers, to refer to this characteristic and to apply to him as particularly fitting the lines:

"So, if I live or die to serve my friend,
'Tis for my love,—'tis for my friend alone,
And not for any rate that friendship bears
In heaven or on earth."

The editors of the JOURNAL are especially gratified at this mark of appreciation of the work and character of their chief and mentor. They have had opportunities for knowing of the sacrifices of time, ease, and even health which Dr. Hurd has made in behalf of the Association and its JOURNAL, and have felt on many occasions prickings of conscience when they realized how great the burden was which he was carrying and how little they really did to ease the load.

Affairs of this kind are particularly pleasant and occur far too infrequently. The dinner to Dr. Chapin to celebrate the completion of fifty years of efficient and epoch-making work in hospitals for the insane and the presentation of the testimonial to Dr. Hurd, will, we hope, be examples which will be imitated in one way or an other in the future. All of us can remember examples of men in our profession, as well as of men in other departments of work, whose spirit and accomplishment we have admired, whose friendship and example have been treasured and helpful, but to whom, because of that curious reticence which prevents men from expressing to each other their real feelings, we have never said one word of cheer or congratulation, or extended one word of simple acknowledgement for the help they have been to us and to others.

Something of this kind helps men who are carrying burdens we often know little of, removes clouds which they imagine are covering the sun, smooths paths which are rough, and adds to the general sum of human happiness and brotherly confidence and love. Let us have more of it. Few men will, however, be found more worthy of such expressions than our friend and associate Dr. Hurd, to whom long life—" love, honor, obedience," " troops of friends " he already has.

Dr. Hurd has sent to the committee the following letter:

BALTIMORE, January 27, 1906.

To Dr. Charles W. Page, Dr. P. L. Murphy, and Dr. C. B. Burr, Committee of The American Medico-Psychological Association.

GENTLEMEN.—Owing to many unforeseen circumstances, it was not practicable to gather the local members of the American Medico-Psychological Association together until last evening, when eight members accepted my invitation to dinner. During the dinner, Dr. C. G. Hill presented to me the beautiful loving cup, together with your most kind letter. If I were worthy of all the kind messages which it contained, and felt sure that

I had accomplished enough to warrant such good opinion and appreciation, I should be very happy. I can only say that I have enjoyed working with the members of the Association and in its behalf, and it has been my keenest pleasure to see it grow in efficiency and good work. Individually I have done but little; collectively the Association has done it all. I count myself most fortunate to have been permitted to work at a formative period in the progress of our specialty, at a time when the construction of institutions no longer engrossed the thoughts of our members, but their organization and greater medical efficiency were all-important.

I am deeply grateful for your expression of appreciation of my efforts and for the beautiful cup. I have never seen one as artistic and graceful, and I am sure that none ever carried the good-will and kind thoughts of a nobler or more self-sacrificing body of men. I thank you and through you the American Medico-Psychological Association for the evidence of your good-will and kind feeling.

With deepest respect, believe me, as ever,
Sincerely yours,

HENRY M. HURD.

DR. DENT'S SUCCESSOR AS SECRETARY.—At a meeting of the Council of the American Medico-Psychological Association, held in New York, on January 16, Dr. Charles W. Pilgrim, of the Hudson River State Hospital, Poughkeepsie, N. Y., was elected Secretary and Treasurer to succeed the late Dr. Emmet C. Dent, whose sudden death is chronicled in this number of the JOURNAL.

AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION—CHANGE OF PLACE OF MEETING.—At a special meeting of the Council of the Association, held in New York, January 16th, it was found desirable to change the place of meeting for the sixty-second annual session. The Association is to meet in Boston, Mass., on Tuesday, Wednesday, Thursday, and Friday, June 12th to 15th, 1906. The headquarters of the Association will be at the Hotel Vendome. Dr. George T. Tuttle, of the McLean Hospital, Waverly, has been made chairman of the Committee on Arrangements.

We understand that a large number of papers has been promised.

Notes on New Books

Nervous and Mental Diseases. By ARCHIBALD CHURCH, M. D., Professor of Nervous and Mental Diseases and Medical Jurisprudence in the Northwestern University Medical School, Chicago, and FREDERICK PETERSON, M. D., Ex-President of the State Commission in Lunacy, New York, Clinical Professor of Neurology and Psychiatry, Columbia University, New York. Fifth edition. Thoroughly revised. (Philadelphia and London: W. B. Saunders and Company, 1905.)

The book appears in its fifth edition. In general make-up it is similar to the former editions, and exceeds the fourth edition by fifteen pages. The typographical work and binding are good.

In the section on Nervous Diseases by Dr. Church, many slight alterations have been made. In the article on Tubercular Meningitis the rhythmical contraction and dilatation of the pupils when the body is bent forwards and backwards, described by Squires, has been added to the paragraph on Symptomatology. In Chapter VIII—Diseases of the Eighth Cranial Nerve, the localizing symptoms of tumor of the root of the auditory nerve, as described by Fraenkel and Hunt, have been added.

It is unfortunate that the chapter on the Cerebral Cortex-Localization has not been revised. The author still retains the old localization of the motor area although it has been definitely agreed upon by authorities for several years that the motor area does not extend posterior to the Rolandic fissure.

In the chapter on Cerebral Hæmorrhage the mental symptoms which may occur are dismissed with the brief remark that "in the old it may precipitate the mental deterioration of senility and it may be followed by organic dementia," which is a very incomplete summary of what may occur. The good results following anti-syphilitic treatment of tabes as given by various French authors have been noted in the section on treatment of that disease.

As a whole the section on Nervous Diseases is well written and will serve as a text-book for students.

The section on Mental Diseases by Dr. Peterson is much inferior in every way to the preceding section.

The author gives several classifications of the Anglo-American, German, and French schools for reference. The classification used in the section is that of the Greco-Roman period with the addition of circular insanity, general paralysis, and paranoia and short chapters on Manic-Depressive Insanity and Dementia Præcox. The only concession made to the advance

in Psychiatry in the last twenty years is the addition of Kraepelin's classification, two pages describing the manic-depressive group, five pages on Dementia Præcox, and an excellent review of the work of Kraepelin, Ziehen, and Wernicke by Adolf Meyer. To any one who desires to obtain a knowledge of modern psychiatry this review is the only valuable part of the section.

Dementia is still divided into senile, secondary, and primary, and while the author says that the term dementia is used improperly, used by the laity as synonymous with insanity, he utterly ignores the modern view that dementia is a permanent, incurable deterioration of the mind.

To General Paralysis the author devotes twelve pages. This disease is among the best known, is one of the most frequent, and one of the most important mental diseases, and surely deserves more space than that allotted to it. To Paranoia which is one of the most infrequent psychoses, he gives twenty-four pages. Auto-intoxication is mentioned several times, but no mention is made of the group of psychoses caused by auto-intoxication as described by Régis and others.

As a whole the section cannot be recommended to any one who wishes to get a working knowledge of Psychiatry as it is understood at the present time.

C. R.

Abstracts and Extracts

Ricerche sul ricambio materiale nei dementi precoci. Terza nota: Ulteriori Ricerche Urologiche (Azoto totale, rapporto tra azoto dell' urea e azoto totale, acidita totale.) Dei Dottori A. d'Ormea e F. Maggiotto. Giornale di Psichiatria Clinica e Tecnica Manicomiale, Anno XXXIII, Fasc. I-II, 1905.

In this investigation the subjects were two men and two women in each of the three forms of dementia præcox, hebephrenic, catatonic, and paranoid. All of these were placed upon the same diet, the urine was collected for 24 hours, and a daily examination made for 5 days. The determination of the total nitrogen was made by the Kjeldahl method, the nitrogen of the urea being estimated by the hypobromite method of Yvon. The total acidity was determined by means of a solution of sodium hydrate 1 cc. of which neutralized 1 cgm. of oxalic acid, phenolphthalein being used as an indicator.

The results are tabulated for each individual as well as for the whole series. Five examinations were made on normal individuals to fix a standard. From these examinations it was determined that the quantity of urine passed in 24 hours was 1650 cc., sp. g. 1019, total nitrogen 14,759 gm., nitrogen of urea 12,889 gm., the ratio between the total nitrogen and that of the urea being 87.32, the total acidity being 6249 gm. The average results were somewhat higher in the men than in the women, the averages of the whole series being as follows: Total quantity of urine in 24 hours 1141 cc., sp. g. 1018.5, total nitrogen 11,066, nitrogen of urea 8855, the ratio between being 79, and the total acidity 2906.

The conclusions arrived at in the previous experiments that the average quantity of urine eliminated in 24 hours by precocious dements is diminished, and that there is also a slight lowering of the specific gravity, are confirmed, and the following are also formulated: 1. A diminution in the total quantity of nitrogen eliminated in the urine. 2. A fall in the ratio between the nitrogen of the urea and the total nitrogen. 3. A marked diminution in the total acidity of the urine.

W. R D.

Ricerche sul ricambio materiale dei dementi precoci. Quarta nota: Ricerche comparative sulla eliminazione del bleu di metilene per via renale negli stati di depressione e di eccitamento della demenza precoce e di altre psicosi. Dei Dottori A. d'Ormea e F. Maggiotto. Giornale di Psichiatria Clinica e Tecnica Manicomiale, Anno XXXIII, Fasc. III-IV, 1905.

This investigation was undertaken to complete the research, of which the third note or report is referred to above. Again taking up the first investigation with its theory that the rapidity of the elimination of methylene blue does not depend primarily upon any disease of liver or kidneys but is an index of general metabolism depending on the general eliminating power of the body and especially upon the nervous system, d'Ormea and Maggiotto have carried on experiments similar to those formerly described (see this JOURNAL, Vol. 61, p. 555).

The subjects for this investigation were as nearly as possible in the same physical condition, leading the same sort of life and were given the same diet. The subjects for study of the depressive period numbered 24, five cases each of dementia præcox, manic-depressive insanity, pellagrous insanity, and involutional melancholia, and four cases of hysteria. The subjects observed of the period of excitement were 23, five cases each of dementia præcox, manic-depressive insanity, phrenasthenia, and paresis, and three cases of hysteria. The technique employed was similar to that of the previous study (see above). Part of the results are tabulated as follows:

TOTAL DURATION OF THE ELIMINATION OF METHYLENE BLUE.

a.

In dementia præcox, depressive period	132	hours.
" normal individuals	96	"
" hysteria, depressive period	84	"
" manic-depressive insanity, depressive period	76	"
" involutional melancholia	76	"
" pellagrous insanity, depressive period.....	64	"

b.

In dementia præcox, period of excitement....	132	hours.
" normal individuals	96	"
" hysteria, period of excitement.....	84	"
" manic-depressive insanity, per. of excitem't	76	"
" phrenasthenia, period of excitement.....	68	"
" paresis, period of excitement.....	64	"

Other results are given with minuteness in many tables, and together with the case abstracts offer ample proof of the results as well as of the care with which this study has been carried on. The conclusions to the article are as follows:

1. In dementia præcox there is a special and characteristic change in the elimination of waste material shown:

a. Means of a characteristic curve in the elimination of methylene blue, a discontinuous polycycle.

b. In the general character and composition of the urine, which is diminished in quantity has a lowered specific gravity, a marked diminution of

urea, of uric acid, phosphoric acid, sulphuric acid, total nitrogen, total acidity, and a lowering of the ratio between the nitrogen of the urea and the total nitrogen, with a slight increase of chlorides.

2. The elimination of methylene blue in other psychoses studied is, on the contrary always more rapid than in the normal individual and its curve is a continuous polycycle.

3. The elimination presents the same special character in each psychosis, and is influenced but in a slight degree by the syndrome of depression or of excitement which the same patient may show. The elimination in the depressive period is slightly slower than in the period of excitement.

4. In the present state of knowledge dementia præcox may be considered as an entity and is distinct from other mental diseases in probably having its cause in a change in waste material perhaps producing a toxic substance in the sexual organs, and causing degenerative changes in the brain.

5. The elimination of methylene blue by reason of the constant characteristics which it presents in cases of dementia præcox, offers a means of diagnosis in this psychosis.

W. R. D.

La formola emo-leucocitaria nella demenza precoce. Del ORESTE SANDRI. Rivista di Patologia nervosa e mentale, Vol. X, p. 464, Ottobre, 1905.

The conclusions to this research are as follows:

1. The first stage of dementia præcox is accompanied by changes of the leucocytic formula indicating a condition of intoxication of the organism; namely, an increase in the total number of leucocytes with a slight polynuclear increase.

2. The appearance of catatonic symptoms in the hebephrenic and paranoid forms is accompanied by changes in the leucocytic formula; namely, a marked increase of mononuclears.

3. The total number and the ratio between the formed elements of the blood does not show any change in the chronic paranoid and hebephrenic forms.

4. The changes in the leucocytic formula above described may be as well compared and with equal value in the recent catatonic form as in the case which has existed for years and may be callel chronic.

W. R. D.

Di una speciale forma del globulo rosso nella demenza precoce. Dei DOTTORI G. PIGHINI E G. PAOLI. Rivista Sperimentale di Freniatria, Anno XLI, p. 100, 1905.

By means of a special technique devised by Pighini the authors have studied the blood in ten cases of dementia præcox, abstracts of whose histories are given. The conclusions are as follows: 1. The red blood cells in dementia præcox, stained by a special method, show a characteristic structure, presenting generally an umbilicated appearance and a slight

diminution in size. 2. Such an appearance is not met with in the majority of physical or mental diseases. The only cases showing a similar appearance were two chlorotics and a severe epileptic. It is probable that in time such special blood changes of dementia præcox will be considered not as pathognomic but as an index of the severe metabolic changes existing in this disease.

The special staining technique is as follows: Blood films are fixed in the flame of an alcohol lamp or better in an Ehrlich oven at 110° C. for 5 to 10 seconds. They are then placed in the following mordaunt for 13 to 14 hours:

4% aqueous solution of corrosive sublimate .....20 cc.
4% aqueous solution of molybdate of ammonia.....30 cc.
Hydrochloric acid, C. P. .....19 drops.

The hydrochloric acid is added drop by drop to the mixture of sublimate and molybdate, a yellow-green liquid resulting. The film is washed in running water for an hour and stained in carbol thionin (tionina fenica di nicolle) for ½ to 1 hour, then fixed by a solution of molybdate for 10 to 15 minutes. After free washing in water the film is dried by the heat of a lamp and passed through a series of alcohols, then xylol, finally being mounted in balsam. As contrast stains a saturated solution of acid fuchsin or 1% aqueous solution of erythrosin or eosin may be used before the final washing with water.

W. R. D.

Les formes frustes de la Démence Précoce. Par GUSTAVE MONOD. Thèse de Paris, 1905.

This thesis is a careful study of the simple dementing form of dementia præcox to which attention has been especially directed by Otto Diem. Monod illustrates his thesis by descriptions of two cases. The "medico-legal view" which concludes the thesis is especially noteworthy. In these patients all moral instincts are diminished and they are dishonest without calculation, incendiaries without reason, and frequently become vagabonds. Many of the chronic offenders in the army deserters and others are cases of dementia præcox, and among the most difficult to discipline. The treatment should be preventive. Overwork should be avoided. Woman should retain the place she has held for centuries and avoid the cares and responsibilities of the world as much as possible. A system of re-education may be established with advantage.

Monod's conclusions are:

Among the forms of dementia præcox is one characterized by a slight diminution in the mental faculties. Few of these cases are seen in asylums, but are seen among the vagabonds, alcoholics, and prostitutes.

The preventative means are:

To teach every physician the psychiatry so that he can fill the office of expert in the courts and to examine mentally every person who comes before a court.

The reparative means are:

After condemnation to get the sufferer out of prison and treat him as an insane man and not as a criminal, and to have regular psychiatric inspections of the prisons.

Diphtheroid Organisms in the Throats of the Insane. By J. W. H. EYRE and J. FROUDE FLASHMAN. British Medical Journal, 28 Oct., 1905.

The authors summarize Dr. Robertson's hypothesis as follows: "That by syphilis and perhaps other diseases, the defensive powers of the organism are so reduced in certain directions that the individual falls a prey to the destructive action of the diphtheroid organism, which, he contends, is almost constantly associated with this class of insanity (general paralysis); and, further, that it is this organism or its toxin which gives the paralytic aspect to the disease."

The object of the investigation is stated to be based on the hope that the inquiry might throw some light on the question of whether Dr. Robertson had to do with a "local infection" in the asylum from which he drew his material, or whether his results in this particular held good in the case of other asylums. One hundred and thirty-eight living cases and material from thirty-three *post-mortem* inspections were examined. The material was drawn from two asylums, the London County Asylum at Colney Hatch and the London County Asylum at Claybury. The *post-mortem* material was obtained exclusively from Colney Hatch Asylum during a period of three months ending December 31, 1903.

Cultures from living patients were made from the pharynx, fauces, and carious teeth. The differential diagnosis of the diphtheroid bacillus was invariably made on the result of the examination of the methylene-blue stained specimen derived from the blood-serum cultivation.

In the *post-mortem* subjects cultures were made from the cerebro-spinal fluid, swabbings from the pharynx, heart-blood, swabbings from bronchi, bile and from scrapings from the mucous membrane of the intestine.

As a result of the observations the following conclusions were formulated:

1. That the percentage incidence of all "diphtheroid" organisms in the throats of the insane (17.3 per cent) is not in excess of that noted in the sane population (18.5 per cent) outside the walls of an asylum.

2. That the percentage incidence of genuine B. diphtheriæ (5.07 per cent) in the throats of the insane is smaller still (a large proportion of the diptheroid organisms noted were common saprophytic members of the diphtheria group of bacilli), and compares well with 6.9 per cent in the healthy sane.

3. That there is no evidence to show that B. diphtheriæ is more common in the throats of general paralytics (5 per cent) than in the throats of cases of other forms of insanity (5.1 per cent).

4. That the number of general paralytics examined *post-mortem* is too small to enable any definite conclusions to be drawn therefrom. At the

same time it is a significant fact that B. diphtheriæ was not isolated from any of these cases.

5. That the majority of the strains of B. diphtheriæ isolated from the throats of the insane are of low virulence and slight toxicity, and so compare in these respects with the types found occasionally in the throats of the healthy sane.

6. That having due regard to the above conclusions, we are unable to trace any causal connexion between B. diphtheriæ and general paralysis of the insane. C. R.

Pamphlets Received

Cancer of the Breast. End Results of One Hundred Operations. Homer Gage, M. D. Reprinted from the Journal of the American Medical Association, November 11, 1905.

Maryland Agricultural College Bulletin. October-December, 1905. Vol. 2, No. 2.

The Maryland Agricultural College Quarterly. August, 1905. No. 29.

The Maryland Agricultural College Quarterly. November, 1905. No. 30.

Report of the Trustees of the Massachusetts Hospital for Epileptics for the year ending September 30, 1905.

The One Hundred and Eighth Annual Report of the Board of Managers of the Maryland Hospital for the Insane to the Governor of Maryland, November, 1905.

Fifty-Eighth Annual Report of the Trustees of the Massachusetts School of the Feeble-Minded at Waltham, for the year ending September 30, 1905.

Nervous and Mental Manifestations of Pre-pernicious Anemia. F. W. Langdon, M. D. Reprinted from the Journal of the American Medical Association, November 25, 1905.

Tenth Annual Report of the Board of Managers of the Springfield State Hospital of the State of Maryland, Sykesville, Maryland, to the Governor of Maryland, October 1, 1905.

Fifty-Second Annual Report of the Trustees of the Taunton Insane Hospital for the year ending September 30, 1905.

Forty-Sixth Annual Report of the Board of Directors and Superintendent of Longview Hospital, Cincinnati, Ohio, to the Governor of the State of Ohio for the year 1905.

The One Hundred and Thirty-Second Annual Report of the Eastern State Hospital, of Virginia (at Williamsburg), for the fiscal year ending September 30, 1905.

Fifth Annual Report of the New York State Hospital for the Care of Crippled and Deformed Children for the year ending September 30, 1905.

Fourteenth Annual Report of the Trustees of the Foxborough State Hospital for the year ending September 30, 1905.

Squibb's Materia Medica for 1906.